

INCIDENT REVIEW

3200 Mill Creek Road

ABSTRACT

A firefighter was seriously burned at a fire in a single-family dwelling

Delaware State Fire School



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Introduction

On March 14, 2019 at 08:36 hours, a house fire was dispatched in the area of 3200 Mill Creek Road. The fire resulted in the serious injury of a volunteer firefighter from the Minquas Fire Company of Newport, as well as significant damage to the structure. Following the incident, Fire Chief Joe Stewart of the Mill Creek Fire Company contacted Director Robert Newnam of the Delaware State Fire School to assemble a group to review the incident. This report is the result of that request. The information in this document was gathered from multiple interviews of those involved in the incident, the fire investigation report filed by the Delaware State Fire Marshal's Office, media from the incident from various sources, photos and video taken by the committee, and policy documentation from the agencies involved.

The Building

The home located at 3200 Mill Creek Road outside of Wilmington, Delaware was built in 1910 according to New Castle County property records. It has approximately 2100 square feet of living space on 2 floors as well as a large attic and a small basement. The exterior walls are masonry with wood joists and flooring. The interior walls are finished with plaster and lathe typical of the era when it was built. The first floor consists of four main rooms, two on either side of a central hallway and stairway. The second floor has four bedrooms (one in each corner) and a bathroom in the center of the front of the house. The stairs continue from the second floor up into the attic. The basement stairs are located under the first floor stairs.



Figure 1-House Before Fire (Google)

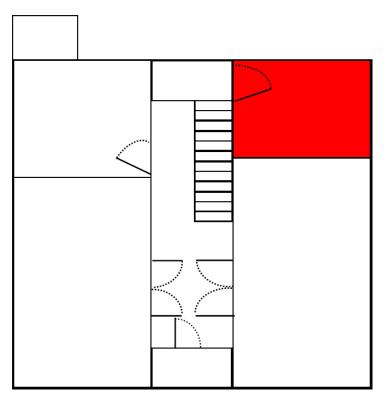


Figure 2-First Floor/Red Indicates Room of Origin

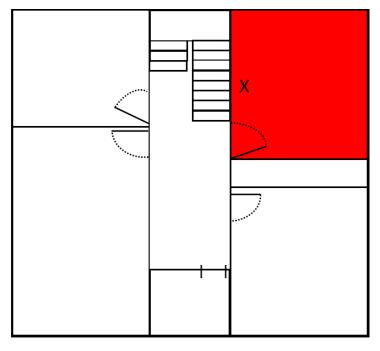


Figure 3-Second Floor/Red Indicates Room of Floor Failure

Fire Service

New Castle County is located in northern Delaware. Its fire protection consists of 21 independent volunteer fire companies that operate out of 31 stations and one career fire department in the City of

Wilmington that operates out of six stations. There are also full time industrial brigades at specific industries and an airport fire department. The volunteer fire companies supplement their staffing with career personnel funded out of their operating budgets.

Mill Creek

The Mill Creek Fire Company operates two stations (2 & 21) and during this fire had nine career personnel working. Two were assigned to station 2 and seven were assigned to station 21. All nine personnel responded to this incident along with one volunteer (the Fire Chief) who responded after hearing the mayday declared.

Mutual Aid

The mutual aid companies responded with a mix of volunteer and career personnel, along with several ride-along from other companies from Delaware, New Jersey, and Pennsylvania. The City of Wilmington also responded with career personnel.

EMS

Emergency medical services in New Castle County consists of Basic Life Support transport units operated by the fire companies, staffed primarily by their full time and part time career personnel. The county government supplies Advanced Life Support as a third service in chase vehicles. The Delaware State Police provides Advanced Life Support and air transport through their aviation section and each helicopter is staffed by a pilot and paramedic.

The Fire

At approximately 5:30 am on the morning of the incident, a resident of the home put towels in the dryer located on the first floor and left for work. Just after 8:30 am, golfers on the course that surrounds the home called 911 to report flames coming from a house on Mill Creek Road in the area of Riblett Lane. New Castle County Public Safety Communications (Fireboard) dispatched a first alarm assignment for a house fire. It consisted of stations 2 & 21 (Mill Creek), 14 (Cranston Heights) for an engine, 19 (Hockessin) for an engine, 30 (Belvedere) for an engine, 16 (Elsmere) for a ladder, and 23 (Minquas of Newport) for a rescue. This is in accordance with the New Castle County Fire Chiefs Association policy of dispatching four engines, two ladders, and a rescue on any reported structure fire.

Unit	Dispatch Assignment	Actual Assignment
21-6	First Due Engine	First Due Engine
21-7	First Due Ladder/Special Service	Failed to respond
Engine 14	Second Due Engine	Third Due Special/Rescue responded in its place
Tanker 19	Third Due Engine	Second Due Engine
Engine 30	Fourth Due Engine	Failed to respond promptly
Ladder 16	Second Due Ladder/Special Service	First Due Special Service
Rescue 23	Rescue/Third Due Special	Second Due Special Service

Mill Creek Units

Rescue Engine 21-6 responded with their career staff supervisor (Guzzo) as the officer, a career driver (Bailey), and two career firefighters (Eckrich & Klink). Fireboard advised them that it was reported as a roof on fire. The officer and crew of 21-6 had multiple conversations that this fire was in an area that

did not have fire hydrants. The closest hydrant listed on the CAD map as well as the Mill Creek map book was located at Mill Creek Road and Merrimor Court (approximately 2000 feet from the reported area). Personnel from Hockessin chose to bring Tanker 19 in place of their engine based on their knowledge of the area. The officer of 21-6 stated in his interview that his plan at this point was to utilize the water from his own engine, the tank water of Quint 21-7 (Campbell responding driver-only close behind him), and Tanker 19 which would have given him a total of 3650 gallons of water. Fireboard gave an update of "flames from the rear of the residence".

Ambulance B-2 (Riccio/Quinn) arrived on the scene first and reported a three story single family dwelling with fire in the rear of the residence. He confirmed the address of 3200 Mill Creek Road and stated that

he was "unsure about occupancy". Riccio attempted a 360 but stopped at the Charlie side door to the kitchen and kicked it in. He stuck his head in and yelled "fire department" but did not enter.

About the same time 21-6 was passing the Wilmington Junior Academy approximately 900 feet prior to the house and the officer spotted a hydrant that was not on the map and can be heard on the dash camera to say "stop, stop" to his driver but the engine was well past the hydrant by the time he acknowledged it. The officer of 21-6 confirmed the report of B-2 and had his driver position the

apparatus near the Charlie/Delta corner of the residence at



Figure 4-Conditions on Arrival (Jankowski)

the end of the driveway. He established command and assumed the first due engine assignment. He advised Fireboard that they had spotted a hydrant in front of the church approaching the scene and the next arriving engine should lay in from there. Klink and Eckrich stretched a dry 300' 1 ¾" hose into the kitchen through a door on the Charlie side. They advanced through the kitchen and dining room and into the center hallway and up the stairs leading to the second floor and called for water (See Appendix C for diagram of route). They reported that visibility was good at this point. They moved to the second floor and encountered heavy smoke. The nozzle firefighter (Klink) clicked his SCBA regulator in at this point and discovered he had an issue with it. He cracked his bypass and realized that he was not getting a good seal with his mask. He opened the nozzle and put water on the fire for an undetermined amount of time. He then passed the nozzle to Eckrich who advanced the hose to the doorway of the fire room and sprayed water into the fire room for 10-30 seconds and then ran out of water. At this point the fire had been darkened down. He backed up to the stairwell to await water to return.

During this process, Riccio approached Bailey and offered to pump the engine because he did not have his turnout gear with him (it was on the ambulance which had been parked away from the scene) but Bailey did. Riccio advised Campbell that he needed a supply line so he (Campbell) took the 5" from the hose bed and took it to Tanker 19. Campbell stated that as he was walking back to 21-6, he turned back and noticed that the driver of Tanker 19 was attempting to connect the supply line to the apparatus with the humat valve still attached (the driver of Tanker 19, Gillespie, did not acknowledge doing this during her interview). He thought that this could possibly be used as a manifold to supply multiple pieces. While he was assisting her, the mayday occurred and he ran back toward 21-6. At some point

Riccio pulled a second 1 ¾" hose line (yellow) to the house as a backup line but didn't charge it. Later, he and Campbell took a 3" line and connected 21-7 to 21-6 in to refill the engine.

Riccio's partner on the ambulance (Quinn) grabbed a ground ladder and took it to the Charlie side. He and Guzzo placed it at the window of the fire room. Bailey made the second floor and he stated that he searched three rooms.

At this point Fireboard redispatched 2 &21 for the working fire and added Ladder 17 (staffed) to replace the ladder that failed on the initial dispatch. Command updated the status of the incident as having a second floor bedroom fire on the Charlie/Delta corner and the first hose line is advancing. About 3 minutes later, Command advised the hose team to "back out for a second".

Elsmere Units

Ladder 16 had arrived and took the first due special service assignment. Part of the crew began to throw ground ladders and the two entered the structure and followed the hose line and met up with the firefighter from 21-6. One firefighter from Ladder 16 (Rosa) called over the radio for more pressure on the line. Ladder 16 Officer (Games) stated that the hose line did not appear to have good pressure. He straightened a kink and it got better but still not what he would consider adequate. He also called on the radio for more pressure on the line.



Figure 5-Initial Knockdown (Jankowski)

Ladder 16 OV (Mancini) called Command to give the Charlie Side Report. He reported 2 stories in the rear with smoke showing and advised that he was going to VES (Vent-Enter-Search) the second floor on the Charlie side (actually the Bravo side). Command did not copy his request and asked him to repeat it but he did not. Ladder 16 OV threw a ground ladder to a window on the Bravo side near the Bravo/Charlie corner and climbed it with a halligan bar and a 6' NY hook. He used the hook to take out the entire window and then threw it inside. He proceeded to climb through the window with

the halligan. He stated that the door to the hallway was closed and visibility was good. He opened the

door to the hallway and heard commotion. A firefighter wearing Lewes gear advised him that a firefighter was trapped.

The Fire Chief from Elsmere (Facciolo, 16-8) also arrived in a command vehicle. He parked it past the fire scene and donned turnout gear (no SCBA) and walked up to the scene.

Minquas Units

Rescue 23 responded with seven personnel. Two career firefighters, a volunteer Captain, and 4 volunteer firefighters. Squad 23 responded with the Fire Chief (Dierolf, 23-8), a career firefighter driving, and a volunteer firefighter. As Rescue 23 arrived they assumed the second due special service and split their crew. Three firefighters (Asher, Richards, and Colpo) were the outside team. They were given a verbal order from command to ladder the Charlie & Delta sides, which is also their assignment by the county policy. The inside team (Smiley, McKay, Lambert, and Hill) donned SCBA and entered the structure through side Alpha. All had halligan bars with the exception of Lambert, who had a hook and a water extinguisher. They proceeded up the stairs and met up with personnel from Mill Creek and Hockessin with the hose lines. The hose teams advised them that did not have water. They passed those crews and entered the fire room.



Figure 6-Rescue 23 Arrival (Smiley)

Asher took the ground ladder from Rescue 23 and placed it at the center window on the Charlie side

(stairwell) and Colpo took a ladder from 21-7 and put it against the wall on the Alpha side. Colpo then donned his SCBA and entered the house through the Alpha side.

Squad 23 arrived at the hydrant and told the Captain from Hockessin that they would pump the hydrant line. They disconnected the hydrant line and hooked it to their engine. The Fire Chief and the firefighter walked up to the scene. The firefighter donned his SCBA and entered through the Alpha side and followed the hose line upstairs. The Fire Chief arrived shortly afterwards and also donned his SCBA and entered through the Alpha side.

Hockessin Units

Tanker 19 from Hockessin responded in place of a standard engine because the area was reported as not having fire hydrants. It was staffed by a career Captain (Hovis), career firefighter (Gillespie) driving, and a career firefighter (Warrick) in the back. Ambulance A-19 also responded with two career firefighters. The Fire Chief (19-8) also responded in a command vehicle.

As Tanker 19 approached, the order for the second engine to hit the hydrant in front of the church was given by command. They stopped and the Captain got out to wrap and connect the hydrant. The tanker parked just short of the house. Warrick went up to the structure and met up with a firefighter from A-19 (Mench) and together they stretched a backup line from 21-6. The driver set up to supply 21-6 with the assistance of the driver of 21-7. The line from the hydrant was hooked to an intake on one side and the line from 21-6 was hooked to an intake on the opposite side.

The Fire Chief (Saienni, 19-8) arrived in a command vehicle and parked it down the road. He donned his turnout gear and SCBA and walked up to the scene.

Cranston Heights Units

Cranston Heights responded with their rescue truck. They were dispatched as an engine but they were out on a medical call in the rescue and responded directly to the fire in that. They assumed the third due special service upon arrival, which is consistent with the county policy. The IC ordered them to change their assignment to assist with the water supply issues.

The Mayday

As the inside crew from Rescue 23 arrived at the top of the stairs, they encountered mild smoke conditions and could identify the fire room. They entered the room with Smiley and Hill going left and McKay going right. There was good visibility in the room. Smiley stated that he first went over to the bed and swept for a body. He then observed fire coming from the wall and decided to use his tool to break it open to access it better. At that point he fell through the floor up to his knees. He put his hands down to push himself back up but his "gloves caught on fire". Firefighters Hill and McKay recognized that Smiley was in trouble and attempted to pull him up by his left SCBA strap and call a Mayday over the radio. Simultaneously, an Elsmere firefighter grabbed him by the right SCBA strap and attempted to do the same. Both Maydays were transmitted as well as a verbal Mayday by Firefighter Eckrich from Mill Creek out the Charlie side window to the Incident Commander. The IC responded to this report verbally by saying to Eckrich (and to Klink, who was about to reenter the structure), "get him and get out".

The Elsmere firefighter that had performed the VEIS (Mancini) stated that when the Mayday was declared he entered the hallway to find out what was going on. After getting some information from a firefighter in the hallway about the situation, he went to the bathroom located on the Alpha side and took out the window to "draw the fire away from the Mayday" (this action was based on a class he took in another state).

By this point, two firefighters from Elsmere were attempting to pull Smiley out and a third used a water extinguisher to attempt to beat back the flames. All attempts to lift Smiley only resulted in pulling his SCBA up due to his waist strap not being fastened. His mask kept being jerked loose as they attempted to dislodge him. His helmet had also fallen off as it was not equipped with a chin strap. Smiley told the firefighters holding him to let him go. He said that he could see that there was no fire below him but the others did not recognize that and refused to let him go. Eventually they did and he fell through the floor into the laundry room below.

As he came through the floor his SCBA pack and his coat came off and he ended up with his right hand stuck in his coat sleeve and his mask dislodged. He was partially hanging by his right arm. A firefighter reported helping him get out of his sleeve but his recollection is that he got out on his own. After removing himself from both the coat and the mask he made his way out the front door. There was a door to the outside in the laundry room, however he didn't notice it. He emerged from the building wearing only his bunker pants/boots and a sweatshirt. Something had fallen into one of his boots and was burning him so he quickly got those off as well. He was assisted to a stretcher wearing the sweatshirt, shorts, and ankle socks.

All of this happened as Fireboard was going through the established statewide Mayday policy. They set off a tone (three times before starting the narrative), dispatched a second alarm, and contacted the IC to make sure he copied the Mayday. The IC confirmed that he had. By this time Smiley had already exited the structure and 16-8 reported over the radio that the Mayday had been cleared. With the Mayday cleared and a water supply still not established, the IC asked Fireboard to sound the tones for an orderly withdraw. Fireboard called the IC to ensure that the 16 unit that called the Mayday had been accounted for because his radio kept keying up and the IC confirmed that he had.

Injury Treatment

A-19 (Hockessin) was the original BLS standby but they went into bypass for fire suppression. ALS 25 started to the fire but recalled when ALS 24 marked up to respond. Fireboard dispatched B-14 (Cranston Heights) and medic 3 to start towards the fire. These units were still in transit when the mayday occurred. As the mayday was called, the Delaware State Police Helicopter (Trooper 4) was dispatched as per the statewide mayday policy. ALS 25 was dispatched to respond as well. Medic 9 was dispatched as a second medic unit was requested at 8:53. A-12 (Christiana) was then sent as an additional ambulance.

Smiley was met by an ambulance crew from Mill Creek that was not committed to fire suppression. They took him to an ambulance located across the road on their stretcher, assisted by several firefighters. Ground ALS had not arrived yet, but the Delaware State Police helicopter was so they were asked to land immediately to assist with care. The initial discussion among the among the EMS providers was to fly him directly to Chester Crozier Burn Center. This would require a Rapid Sequence Induction Intubation. This maneuver requires 2 certified paramedics and the helicopter is only staffed with one. Ground ALS from New Castle County arrived but they were not certified to utilize that maneuver (per NCC agency policy). He was taken by C-21 to Christiana Hospital with all of Medic 3 and later transferred to Chester. Further discussion with EMS providers after the incident revealed a preference of the burn center for patients to be taken to a trauma center first and then transferred to them once they are stabilized.

Post Mayday Operations



Figure 7-Height of Fire (Jankowski)

A water supply had still not been established at the conclusion of the Mayday. Tanker 19 could not supply 21-6 because all of the lines were hooked to intakes. Chief 19-8 walked over to his tanker as his Captain was walking up from the hydrant. He told the Captain that he needed to get this figured out because 21-6 was out of water. At this point, the Captain disconnected the line coming from the hydrant and hooked it to a discharge. This didn't solve the problem because now the lines were backwards.

Approximately two minutes after his initial request, the IC repeated his order for an orderly evacuation, stating that they still had a lot of

people inside. Fireboard acknowledged his request, however no tone or message was broadcast. The

second alarm had been dispatched and consisted of Engine & Ladder 28 (Wilmington Manor Fire Company), Engine 23 (Minquas), Engine & Rescue 8 (Aetna), Engine & Ladder 12 (Christiana), Two Engines & a Battalion Chief from the Wilmington Fire Department, Engine 17 (Five Points), Rescue 22 (Minquadale), Ladder 25 (Talleyville) and Ladder 18 (Goodwill of New Castle). The IC requested that they stage at the Delcastle Golf Course located near the scene (a total of 8 engines, 4 ladder, and 2 rescues).

At 8:59 the IC advised that one of the engines was having a problem, Squad 23 would be supplying 21-6 directly, and that all personnel were out of the structure. Engine 12 arrived on the scene and requested that the IC have some personnel stretch an additional supply line from 21-6. Engine 12 would take the hydrant line from Tanker 19 and then supply 21-6. At this point the original attack line and backup line were charged and units began to extinguish the fire from the exterior; which by this time was in the first-floor laundry room, the bedroom above, the bathroom on the Alpha side, and the attic. Tower 12 arrived and parked on the street in front of the residence (8:58) after someone moved Rescue 14 out of that position. Tower 12 put its aerial device in service towards the structure to prepare for master stream operations. At 9:04 (approximately 16 minutes after the orderly withdraw announcement) the IC requested that the emergency evacuation signal be sounded "because no one is listening".

Observations

Staffing

Closest Station Failed to Respond

The Mill Creek Fire Company operates a substation (station 2) located at 4021 Skyline Drive. It was the closest station to the incident at distance of 2 miles. No fire apparatus responded from that station (crew responded in the ambulance). The engine due from station 30 did not respond for a considerable amount of time but was replaced by Squad 9 that added itself to the call. However, due to the distance from the fire that unit played no role in the operation.

Overall Staffing

Despite Mill Creek station 2 and Belvedere not responding for an extended period of time, the overall staffing for this incident was excellent. Every piece that responded on the first alarm was fully staffed (several well above minimum levels) except for 21-7 and it was replaced per county policy by a nearby staffed ladder. Several companies were able to place multiple staffed units in service. The fire companies in this part of New Castle County should be commended for their commitment to provide fast, effective service through a mix of paid and volunteer personnel. However, it should also be noted that Squad 9 "jumped" the call and was counted as the fourth engine but was coming from such a distance and had no impact on the incident, arriving after some of the second alarm companies. Current county policy dictates that the next closest "staffed" unit be placed on the call to replace apparatus that fails on the initial dispatch (regardless of the distance from the call) and closer stations are skipped over if they are not staffed.

Unit	Staffing
Engine 21-6 (Mill Creek)	4
Ladder 21-7 (Mill Creek)	1
Ladder 16 (Elsmere)	6
Rescue 23 (Minquas)	7

Squad 23 (Minquas)	3
Rescue 14 (Cranston Heights)	5
Tanker 19 (Hockessin)	3
Chief 19 (Hockessin)	1
Chief 16 (Elsmere)	1
Ambulance B-2 (Mill Creek)	2
Ambulance A-19 (Mill Creek)	2
Ambulance C-21 (Mill Creek)	1
Ladder 17 (Five Points)	4
Total	40

Water Supply

Rural Water Supply Operations

The original plan for this incident was to utilize the tank water of the responding engines as well as Tanker 19. This is backed up both by interviews of Mill Creek and Hockessin personnel as well as the audio recorded by the dash camera in 21-6. Guzzo stated that he planned on using the 650 gallons from 21-6, the 500 gallons from 21-7, and the 2500 gallons from Tanker 19. Hockessin personnel chose to take Tanker

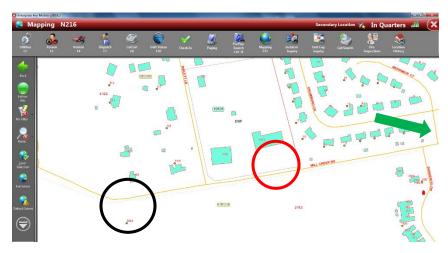


Figure 8-CAD Map (Guzzo)

19 instead of the engine they were dispatched for because they were familiar with the lack of hydrants in the area. A screenshot of the CAD map from that day shows the location of the house (black circle), a blank space where the closest hydrant was located (red circle, approximately 800 feet), and the closest known hydrant according to the CAD (green arrow, approximately 1800 feet). Several months after this incident, the hydrant in question is still not visible on the CAD.

1st Due Engine Assignment

As 21-6 approached the scene, it passed the closest hydrant because they were not aware that it existed. Guzzo can clearly be heard attempting to get the driver of 21-6 to stop when he saw it but the unit was passing it at that point. The operator of 21-7 stated that he knew the hydrant was there but did not verbalize this to anyone at the time of the alarm. He appeared to slow down at the hydrant but did not stop because he didn't feel he carried enough hose to make the lay. The officer of 21-6 requested that the second engine pick up the hydrant. This was Tanker 19 and they complied. This is in line with the county response policy that states: "If 1st Due Engine does not establish a water supply,

they should provide direction/assignment to the 2^{nd} Due Engine". It should also be noted that if the closest station (Mill Creek station 2) had responded, they would have approached from the opposite direction and there are no hydrants on that section of road.

Engine 21-6

When this review was initiated, the committee became aware of a rumor that 21-6 arrived at the scene of the fire it did not have any water in the tank. Video evidence and interviews have proven this not to be the case. However, the committee has been unable to determine if the engine was carrying its full capacity of 650 gallons of water. Firefighters Klink & Eckrich applied water to the fire room for an undetermined amount of time on the second floor through 300' of 1 ¾" hose using a 150 gallon per minute fog nozzle. Eckrich then briefly applied water after Klink left. With no conclusive evidence on the length of time the hose was used, there are several possibilities that exist:

- 1. The tank was not completely full
- 2. Water was not utilized efficiently
- 3. The driver shut the line down prematurely, relying on the tank level lights to determine when the engine was empty

Water Not Utilized

Ladder 21-7 was parked directly behind Engine 21-6 and had a 500 gallon tank. That 500 gallons was not utilized until well after the mayday. Had 21-7 supplied 21-6 as soon as they set up, the hose crew may have been able to complete extinguishment of the bedroom fire.

Second Alarm Dispatch

The second alarm consisted of several stations that were already on the initial alarm. Minquas had a rescue and engine on scene and yet were dispatched for another engine. Five Points already had a ladder on the response but was called for an engine (they were able to fill this assignment).

Strategy and Tactics

Standard Operating Procedures

New Castle County operates under a policy that dictates assignments for each unit on the first alarm based on their arrival order. This is designed to provide a standard response to a structure fire and to give units a framework to operate in the absence of a command level officer. The units are to follow these procedures unless the Incident Commander identifies a reason to deviate from them and give a verbal order.

Incomplete Size Up

None of the arriving units performed a complete size up of the structure. The first arriving unit was B-2 and reported a three story, single family with fire showing from the rear. The only other information they provided was that they had no information on occupants. Engine 21-6 simply confirmed the conditions as reported. The county policy states that the first arriving engine is to provide a proper size up and ensure a 360 is completed (either directly or assign it to another unit). At no point did anyone verbally identify the fire on



Figure 9-Laundry Room Window (Jankowski)

the first floor despite a partially failed window on the Charlie side with smoke coming from it. The county policy clearly spells out the role of the first arriving special service to perform a Charlie Side Report to include the presence of a basement, access to that basement, and if the basement is on fire.

Confusion on Side Designation

The Incident Commander was utilizing the side of the structure facing Mill Creek Road as the Alpha side. Some of the responders assumed that Alpha was the side of the structure where 21-6 and 21-7 were located. This was actually the Delta side. Ladder 16 OV gave a Charlie side report and advised that he was going to VES the second floor on the Charlie side but he was actually on the Bravo side.

Command Vehicles Not Utilized

The officer from Mill Creek was riding on the apparatus and did not have access to a command vehicle. Two neighboring Fire Chiefs arrived in command vehicles on the first alarm but parked them away from the scene so they were not utilized. Some other chiefs brought command vehicles to the scene later in the incident and parked them in the front lawn and they were utilized. One of the points that Guzzo brought up in his interview was getting wrapped up in task-level jobs because he was walking around the incident scene. Not being in a command vehicle may have also contributed to missed messages from Fireboard and others on the scene.

Strategy Declaration

According to the county policy, the initial on scene size up should include a declaration of strategy (offensive or defensive). The first unit on scene was an ambulance that provided a very basic size up of conditions. When 21-6 arrived, the officer he simply stated, "conditions as reported". He followed that

up with "I've got fire from the second floor of the C/D corner, first line is advancing, I got smoke (unintelligible), Ladder 16 you're going to be the search". A complete size up was never completed and the strategy was never declared although crews initiated an offensive attack. Later in the incident he told the hose team to pull out when they lost water and then officially asked for an orderly withdraw after the mayday was cleared. Several firefighters remained in the building after this announcement.

Lack of Tactical Supervision

There were no tactical supervisors assigned during the incident. Three units were operating on the second floor just prior to the mayday (21-6, Ladder 16, & Rescue 23) with three officers (1 from 23 & two from 16), however no one was designated as the supervisor. This resulted in an inefficient search of the second floor due to a lack of coordination.

A tactical level supervisor should be used where multiple units are operating in the same area to ensure that tasks are being completed, eliminate duplication of effort, and maintain a level of accountability/safety. A supervisor at this level would also coordinate with the Incident Commander to provide first hand status reports to assist with critical decision making. Just prior to the mayday, the Incident Commander advised for the hand line crew to back out because they were out of water. A tactical supervisor on Division 2 could have provided the IC with an assessment of current conditions to make decisions such as whether or not the fire had been knocked down sufficiently to conduct a primary search of the second and third floor while they were waiting to establish a water supply.

Command Involved in Task Level Operations

Because Guzzo was walking around the scene instead of at a fixed command location, he became involved in task level operations. He is seen in the video raising a ladder and moving a hose line. This can distract an Incident Commander. While this can be necessary during initial operations when manpower is limited, at this point in the incident there were over 20 firefighters on scene.

Tactical Assignments

New Castle County Policy

The New Castle County Fire Chiefs Association has adopted standard operating guidelines to be used at structure fires based on the order of arrival and function of the unit (see Appendix A). While they are not followed by 100% of the companies in the county, the companies in this area generally use them. Several units arriving verbally assumed the assignment. Standard assignments help units know their role without having to wait for specific orders. This is especially useful if there is not a command-level officer on scene. It also provides a basic level of accountability because units arrive and assume an assignment that has a predetermined task and location. This however needs to be confirmed and supported when someone takes command. In this case, command was assumed by the initial arriving fire unit.

First Due Engine (21-6)

Engine 21-6 arrived and assumed the First Due Engine assignment. The county policy lists the following assignments:

Assignment	Accomplished
Establish water supply or provide direction	Provided direction to second due
Proper size up	Minimal Minimal

Establish or pass command	Established
Ensure a 360 is completed	No
Deploy proper size hand line	Yes

They were not aware of the hydrant so it was passed, however they notified the second engine (Tanker 19) of the location and gave instructions to lay in from it. As stated in the Strategy and Tactics section, the size up and 360 were incomplete. They did place an appropriately sized hand line in service to extinguish the fire.

Second Due Engine (Tanker 19)

Tanker 19 arrived as the second due engine and verbalized that they were taking the hydrant in front of the church as requested. The county policy lists the following assignments:

Assignment	Accomplished
Respond to First Due layout instructions	Yes
Ensure water supply for First Due Engine	No
Ensure 1 st hand line is in place and operating	N/A
Deploy 2 nd hand line	Yes along w/ crew from A-19
Establish command if necessary	N/A

Third Due Engine (Squad 23)

When Squad 23 arrived, Tanker 19 had just began laying hose from the hydrant up to the scene. They advised the hydrant person from Tanker 19 that they would complete the hook up and pump the line due to the distance. The county policy states that the third due engine should establish a secondary water source but since the primary water source had yet to be established they weren't able to accomplish that. It also states "Report to Command - Responsible (sic) establishing the initial RIT, until relieved or reassigned by Command" and this was not done.

Assignment	Accomplished
Establish secondary water supply	N/A
Report to Command - Responsible establishing	No
the initial RIT, until relieved or reassigned by	
Command	

First Due Special Service (Ladder 16)

Ladder 16 arrived and assumed the First Due Special Service. They initially parked on the Alpha side on Mill Creek Road but were ordered to move forward out of the way. During his interview the Incident Commander stated that he envisioned Tanker 19 pulling up that far. They split into Outside and Inside crews. The county policy lists the following assignments:

Assignment	Accomplished
Forcible entry	No (doors on Charlie & Delta were open)
Primary search	<mark>Began</mark>
Charlie Side report	Partial (no basement report/side confusion)
Ladder the Charlie and Delta sides	Threw 3 ladders to Bravo/1 to Alpha

Secure the utilities	No
----------------------	----

Second Due Special Service (Rescue 23)

When Rescue 23 arrived, they assumed Second Due Special Service and split their seven person crew. The county policy lists the following assignments:

Assignment	Accomplished
Forcible entry	Yes
Primary search	Began e e e e e e e e e e e e e e e e e e e
Ensure Charlie side report complete	No
Horizontal & vertical ventilation	N/A
Ladder Alpha & Bravo sides	1 ladder to Charlie and 1 leaned against Alpha

Rescue 23 was given a verbal order by Command to ladder the Charlie/Delta corner. The one ladder thrown on the Charlie side by Rescue 23 (Asher) was to the center window where the stairs were located. The other was ladder leaned against the Alpha side (Colpo).

Third Due Special Service (Rescue 14)

There was no Third Special Service dispatched on this call, however Rescue 14 was already on the road and responded in place of their engine. The county policy lists the following assignments:

Assignment	Accomplished		
Stage/position apparatus as appropriate	No-parked on Alpha-had to be moved later		
Rapid Intervention Team	Yes-deployed appropriate equipment		
Stage apparatus out of the way	No		
Active RIT			
Transfill kit/AED	Yes		
Ground ladders	No		
Coordinated ventilation	Ventilation-Yes, Coordinated-No		

Rescue 14 was given a verbal order to assist with getting the water supply established between Tanker 19 and Engine 21-6 but that order was not acknowledged.

Handling the Mayday

Statewide Policy

Over the last two years there has been significant attention paid to maydays due to a triple Line of Duty Death in 2016 in the City of Wilmington and several subsequent maydays. A statewide policy was developed, followed by an information campaign and training. This included firefighters, command officers, EMS, and dispatchers.

Communication of the Mayday

There were multiple firefighters in the area of the mayday when it occurred. Many of them immediately recognized the situation and attempted to make notification. At least two firefighters managed to get "mayday, mayday, mayday" transmitted over the operational channel. The first went out right after Smiley fell through the floor. Another firefighter yelled out a window to command. Command was acknowledging the verbal notification as the radio transmissions were being made. Fireboard

attempted to contact him, followed quickly by 16-8. There were three transmissions of a firefighter screaming followed by command acknowledging 16-8 who asked "did you copy that mayday?". Command answered "mayday, second floor". A few seconds later, someone gave the second mayday transmission followed by "second floor, fireman through the floor".

Fireboard then activated the emergency tones three times over the course of about 30 seconds and then gave the scripted announcement about 10 seconds after the third set of tones. About 20 seconds later 16-8 called command to tell him the mayday was cleared. It's unclear as to why the tones were activated so many times.

Rescue Effort

The firefighters in the room with Smiley reacted quickly to him falling through the floor. At least four and possibly six firefighters had their hands on him at different times to try and pull him up. Several summoned assistance either by calling the mayday or verbally calling out to other firefighters that were nearby. Other firefighters outside the immediate area also began moving towards the problem.

Policy Analysis

The statewide policy was followed for the most part during the mayday. It was initiated by the firefighters in the area, it was acknowledged by command and dispatch, and dispatch began the alert process. They also dispatched the second alarm and the appropriate EMS resources. There are a few items where the policy was not followed in its entirety:

- The firefighters that called the mayday did not utilize the "Who, What, Where" when they made the call.
- Fireboard set the emergency tone off three times before saying the narrative
- The tones and message were not broadcast on the dispatch channel, only the operations channel

The mayday was cleared very quickly so the remainder of the policy was not necessary. The dispatcher did contact command to clarify that he had made contact with the firefighter from Elsmere whose radio transmitted the mayday. It is not uncommon for multiple maydays to occur once one had been initiated and this showed good initiative on the part of the dispatcher.

Personal Protective Equipment Noncompliant Gear



Figure 10-Helmet Burning After Mayday

Many of the firefighters on the scene were wearing helmets that do not meet current NFPA standards. Older versions of NFPA standards stated simply that if the object met the standard when it was manufactured, it remained compliant throughout its useful life. In 2008 that was changed for helmets to a 10 year life cycle (NFPA 1581, Selection, Care and Maintenance of Structural Firefighting Protective Clothing). The injured firefighter was wearing an old helmet (30+ years) that did not have a chin strap and the helmet fell off shortly after he fell through the floor. It did not have an impact shell. The inner lining and ear flaps were apparently made of combustible material because they burned completely away (See Appendix E).

SCBA Waist Straps

None of the firefighters from Minquas that could be observed in the video were wearing the waist strap on their SCBA. This appears to have directly led to the difficulty firefighters had in rescuing the injured firefighter. When they attempted to lift him from the hole, they were simply pulling the SCBA from his back.

Gloves

The injured firefighter was wearing a pair of gloves that were given to him by a vendor to wear-test. The injured firefighter stated that when he went to push himself out of the hole, his glove caught on fire.



Figure 11-Smiley Just Prior to Entry (McKay)

Accountability

Initial Units Were Not Tracked

As units arrived, they were not being tracked by anyone. Fireboard tracks staffing on each piece of apparatus, however even that was not correct because Rescue 23 had one firefighter more than they announced. Accountability was finally assigned to a neighboring chief officer that arrived after the mayday had been cleared.

Ride Along/Part Time Firefighters Using Home Department Gear

One firefighter riding Elsmere's ladder was wearing his gear from Christiana. One part time firefighter on Hockessin's ambulance was wearing his volunteer gear from Delaware City. Two volunteer firefighters on Minquas's rescue were wearing their volunteer gear from Lewes. This could have caused confusion if they identified themselves on the radio as something other than the gear they were wearing. For example, the firefighter in Christiana gear identified himself as Ladder 16 OV and advised that he was entering a second-floor window. Had



Figure 12-Lewes firefighters on R23

he been the mayday, rescuers on the fire ground would have been looking for a firefighter from Elsmere, not Christiana.

Willful Disregard of Orders

There were individuals on scene who willfully disregarded direct orders from officers. Many firefighters chose to remain inside the structure long after it was broadcast over the operational channel that they were to evacuate and operate in a defensive mode. Some firefighters even disregarded face to face verbal orders to evacuate.

Recommendations

Training

Size Up

Failure to properly size up a structure fire can be fatal. It is important to determine the location and extent of a structure fire and it is absolutely vital to determine the lowest level of a structure that is on fire. No one involved in this incident identified or communicated the fire located in the laundry room on the first floor. This directly led to the firefighter falling through the floor weakened by that fire. Size up training should be provided for all personnel, regardless of rank because it is important that everyone on a structure fire have situational awareness.

Fire Behavior

There seemed to be a lack of understanding on the importance of coordination between fire attack and ventilation.

Ventilation was occurring during a known lapse in water application. The video shows windows being taken in rooms unrelated to the fire while no water was available.

One firefighter stated that he broke a window distal to the fire room "to draw the fire" away from the mayday. This became the only other room on the second floor damaged by fire. Training needs to be provided on fire behavior and how to coordinate ventilation with fire attack.



Figure 13-Uncoordinated Venting (Jankowski)

Pump Operation

Fundamental errors were made by the operators of the two main units responsible for providing water. The eventual operator of 21-6 stated in his interview that he was unfamiliar with the apparatus he was operating. Several people interviewed about this fire related past experiences where the operator of Tanker 19 had difficulties. Formal training on apparatus should be supplemented with frequent proficiency drills.

Search & Rescue

Thought should be given to training firefighters and officers in search techniques. Two firefighters and an officer entered a bedroom with good visibility to search. By using the "oriented man" technique of having the officer remain in the hallway and each of the two firefighters search a room themselves they could have covered more area in a more efficient manner. The use of a Thermal Imaging Camera (TIC)

would have assisted the officer to stay in voice/visual contact with his firefighters and enable him to stay oriented if and when visibility declined.

A Vent-Enter-Isolate-Search (VEIS) was performed in an area where firefighters were already operating. The purpose of the maneuver is to rapidly get a firefighter to search an area that may be immediately inaccessible to other crews; either because of distance, layout of the structure, hoarding conditions, or fire conditions. Often it is a targeted search based on information that a victim may be present in a specific location, although there is some research to suggest that in the future this tactic may become the preferred entry method. Training should be conducted at all levels on when VEIS is appropriate and useful. VEIS is typically done using a team of at least two firefighters equipped and ready for entry. This firefighter made entry after verbally notifying the Incident Commander but without awaiting confirmation from him. If this firefighter had been the mayday, Command may not have been aware that this firefighter was in the building let alone where he may be (IF accountability had been tracked).

Policy Development

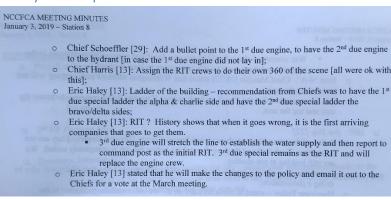


Figure 14-Minutes from Meeting

New Castle County utilizes some countywide policies that are adopted through the county fire chiefs association. The current method of adopting policies involves a member of the county fire chiefs association making a suggestion and then that suggestion gets assigned to a committee. The committee will review the suggestion and make a recommendation to the association in writing. That document is

forwarded to the chiefs of the county for review prior to being voted on at a meeting. The new or revised policy must receive a majority vote of the fire chiefs (or chiefs representatives) attending the meeting. If the motion passes then it becomes policy. The policy is nonbinding in that there is no penalty for noncompliance.



Figure 15-Policy Document

The current president was asked how this information was disseminated once a policy was approved and he stated that the chiefs are sent an email and are provided with a copy of the minutes of the meeting. The New Castle County Fire Chiefs Incident Command Policy Guideline (Appendix A) passed on February 7, 2019 (5 weeks prior to the incident) was a revision of a standing policy. The revision changed the sides of the building that the special services companies were to ladder. The change came from a motion on the floor by a fire officer from a member company. When reviewing the minutes

from that meeting, the final document, and the training material issued; none of them matched. They each listed different sides for the first due special service to ladder.

First Due Special Service

- Inside Team
- Forcible Entry and Primary Search
 - Known Rescue, Immediate Fire Area Out, Floor Above, Top Floor
- Outside Team
 - Charlie Side Report
 - Horizontal and Vertical Ventilation as Needed
 - Ladder Alpha and Bravo Sides
 - Secure Utilities

Figure 16-Policy Training Slide

Policy development on a county level should have a better defined process that includes and defines:

- Proposal of a new policy or revision of an existing one
- A committee for review of the proposal
- Approval process
- Trial period for major revisions
- Review after trial period
- Formal adoption
- Method of enforcement

Policies developed at the county level need to have a defined time for implementation, especially when they

involve task level personnel. They are dependent on their Fire Chief to bring the information back to their membership and train them. When new policies are developed or go through major revisions there needs to be a method to roll them out and with training for all levels and a period of time everyone to be trained prior to implementation. New firefighters should have to complete an orientation on these procedures in order to complete probation.

Accountability

In 2003, the Delaware State Fire Chiefs Association adopted a policy on Accountability that specified the use of individual tags to be placed on rings with the unit number displayed. The policy stated that this would be done on all incidents and then those rings would be taken to the Incident Commander during working fires to establish accountability.

This process is referenced in the NCC policy however it doesn't appear that it is commonly followed. There is no indication that it was followed at this incident. This policy needs to be reviewed to see if it is practical and useful after 15 years of being in place.

It is also problematic when units are operating inside of structures and command is not aware. The policies in use provide direction to units arriving in the initial stages of an incident. However, command needs to confirm the task and location of each unit as soon as possible. In this incident, the units were arriving and taking their assignments but as some of them were completed (such as throwing ground ladders), firefighters donned their SCBA and entered the structure. There was no point at which the Incident Commander was told that they would enter and in one case a firefighter advised that he would enter via a ground ladder but did not wait for verification from command. When the mayday occurred there were over a dozen firefighters in the structure.

True accountability means knowing who is working where at all times. The county policy needs to better address how accountability should be handled and define how units are authorized to enter hazard zones.

Incident Response

The NCC Fire Chiefs Association has created a policy that calls for four engines, two ladder, and one rescue to be dispatched to a reported structure fire with at least three firefighters on each unit. This was created to make sure that sufficient resources arrive in a timely manner after several years of inconsistent responses due to a decline in available volunteers.

Since this policy was adopted, it has become customary for staffed units that are not due to mark up on the radio and be placed on the call regardless of their proximity. Because it is common for at least one unit to fail on a dispatch this has become an accepted practice. It has evolved into a policy where staffed units are now the first option to replace failed apparatus, again regardless of proximity. These staffed units help to "check the box" that the assignment has been filled, but may not necessarily provide the intended result of better service. Both of these situations occurred on this incident. Squad 9 from Aetna put themselves on the call and Ladder 17 from Five Points was added as a staffed replacement for the ladder from Mill Creek that failed. They arrived 35 minutes and 23 minutes (respectively) into the incident. Engine 30 from Belvedere took nearly 15 minutes to respond and still arrived sooner than Squad 9 and only two minutes after Ladder 17.

There needs to be some analysis of how far away a unit can be and still have an impact on an incident when compared to dispatching a closer company. It is difficult to imagine that a unit on the first alarm arriving in 35 minutes will have the desired effect. Along with this, the fact that there are companies that cannot put a single unit on the street at any given time needs to be addressed as well. The root cause of why the county puts together a first alarm assignment together in this manner is that there is an overall staffing problem.

Appendix A-New Castle County Fire Chiefs Incident Command Policy Guideline from February 7, 2019

NCC Fire Chief's Association Policy and Guideline – Incident Command

POLICY:

The NCC Fire Chief's Association adopted NIMS and ICS Procedures in 2005. This Policy and Guideline will standardize the key components and terminology required during all hazard multi-unit responses.

PURPOSE/OBJECTIVE:

To establish a standardized guideline for departments within New Castle County Fire Service to conduct command functions and components in compliance with NIMS and the NCC FCA ICS Procedures Guidebook. All NCC Fire Departments will follow this policy and guideline for all hazard incidents involving a Level 2 Response or above, or any incident the Commander deems necessary.

Definitions of terms utilized in this Policy/Guideline are included in Attachment D.

There are 4 attachments included – A: ICS Command Checklist; B: Building Layout designations; C: Sample Commander Progress Report; D- Definitions.

GUIDELINE:

- Command Assignment RE: Attachment A
 - 1.1. The first fire department member or unit to arrive at the scene not involved in task duties shall assume Command of the incident.
 - 1.2. Command shall be designated by utilizing the District Company name, and any additional incidents will utilize the common place name, or the geographic location of the incident.
 - 1.3. The initial Incident Commander shall remain in Command until Command is transferred via radio announcement, or the incident is stabilized and terminated. A checklist is provided in Attachment A.

- 1.4. An initial risk assessment will be performed and assessed to determine the mode of operations OFFENSIVE, DEFENSIVE, INVESTIGATING.
- 1.5 All unit officers' will utilize their unit officer designation (285 Officer) until designated as a branch/functional group/division position via Command. If a Chief Officer has a designation (IE 298B), they will utilize the unit officer designation if they are riding the officer seat of that apparatus.
- 1.6 All incoming units will be assigned based on pre-arrival assignments and/ or by the IC, and will report to the respective Division/Group Officer and maintain accountability through that Command structure. IC will announce via radio the assignment of specific functions, IE "198B is assigned as Division 1".
- 1.7 The initial unit arriving may need to pass command in order to achieve task duties. The second arriving engine officer shall take Command until the arrival of a Command Officer, or if no Command Officer is available.
- 1.8 The transfer of command shall normally take place after a face/face conversation, and the officer being relieved should relay the following: Incident Conditions; Incident Action Plan; Progress; Safety Items; Resources assigned; Needs for additional resources. The Officer assuming Command shall announce via radio to Fireboard the transfer of command upon completion of the briefing.
- 1.9 Termination of Command Command shall be in effect until the release of all units. Command may be relinquished to subordinates with the appropriate transfer procedures as the situation is scaled down.

2. Initial Size Up/On Scene Reports

2.1. Initial unit will provide a size up and on scene report consisting of the address; the number of floors; the type of structure; conditions upon arrival; initial actions and mode of operation, if different.
Example – Engine 165 on scene 123 Main Street, a 2 story single family

dwelling with smoke showing from Alpha side first story windows. Laying out from hydrant at Main and Maple for an Offensive attack.

- 2.2. The Alpha Side of the structure shall be designated by a radio announcement if the structure layout dictates, for example, if the Alpha Side is not the address side of the structure or is a business/multi-family residential structure. Guides are provided in Attachment B.
- 2.3. Command shall ensure that a Side Charlie Report, or a 360 degree report is completed. This report shall include the visible fire/smoke conditions, the number of floors, the appearance or absence of a basement, and the location of the basement access, if present.
- 2.5 The CAN Designation will be utilized to encompass the Division progress reports. Conditions, Actions, Needs Describes the current conditions being presented, the actions that the crew/unit/division is undertaking, and the resources or requests to the Incident Commander for additional support.
- 3. Structure Designation/Exposures/Floor ID/Building Labeling RE: Attachment B
 - 3.1. Sides of the structure will begin with the address side being Alpha) unless designated per Command or preplanning due to complex layout or a rail car, and work in a clockwise direction with Bravo, the left side of the building when facing Side Alpha; Charlie, the opposite side of Side Alpha, or rear of the building; and Delta, the right side of the building when facing Side Alpha.
 - 3.2. Divisions shall be designated by geographical areas per below and *Attachment B.*
 - 3.3. Identification of attached exposures will utilize the designations of B1, B2, B3, B4; D1, D2, D3, D4, etc. per the diagram in Attachment B. Identification of detached exposures will also utilize B1, B2, etc. and Command shall announce whether exposures are attached or not attached.
 - 3.4. Floor Identification will follow the standard format of the Grade Level floor of the Alpha side being designated as Division 1, with the additional stories following sequential designation as Division 2, 3, etc. and Attic, then Roof; Floors below grade will be deemed as Basement, Subbasement 1, Subbasement 2, etc.; or as deemed by the Incident

- Commander if there is a complex flooring layout provided by the Side Charlie report or per pre-planning.
- Groups shall be designated for functional assignments, IE Ventilation,
 Search and rescue, Extrication, EMS, Rehab, Hazmat, Decon, Triage,
 Treatment, Transport, etc.
- 3.6. Split Level designation Homes that are split level, for example, those that have a garage and living space at ground level, this level will be referred to as Division 1; and bedrooms on 2nd story will be Division 2; and dining/kitchen and living areas on the Split Level, or between the two floors, will be referred to as the Split Level Division. See Attachment B.

4. Communications

- 4.1. All communications by responding departments/agencies are to be channeled through Command unless otherwise designated by Command
- 4.2. The report of smoke and/or fire showing by an onscene fire, ems, or police unit will result in the automatic dispatch of ALS, BLS, and the Fire Marshal. In instances with victim(s) the Fireboard should consider multiple ALS and BLS units to ensure that there is at least 1 ALS and BLS on stand-by for members operating onscene.
- 4.3.Additional Alarm, (IE- 2nd Alarm, 3rd Alarm) will consist of 2 Engines and 1 Truck per additional alarm.
- 4.4 The terms that will be utilized to designate structure types are as follows:

Single Family Dwelling – single and separate residential dwelling;

For Multi-Family Dwellings – Use the following:

Townhouse, Row house, Apartment Building with enclosed or open stairway, and attached/unattached exposures. Do not utilize the term "Garden Style Apartments" as this term has multiple meanings to describe the layout of the buildings and the layout of the 1st Floor Apartments.

4.5 Utilities are not automatic by dispatch, except DPL Gas Priority 1 for a confirmed natural gas line break, and therefore those requests have to be communicated to Fireboard with the specific agency name and priority level. Also See 4.8 for 10 minute mark prompt.

- 4.6 Staging units that are not immediately needed at the incident or add 1
 Staging is one block away or the closest hydrant, and Level 2 Staging is a
 pre-designated parking area or a large parking area for multiple resources
 that is typically not in the line of sight of the incident.
- 4.7 Incident Commander Progress reports: At the 10 minute mark an Operational mode assessment will be provided via radio announcement. At the 20 minute interval there will be a progress report and accountability check, as same at 40 and 60 minute mark. See Attachment C - Sample progress report attachment.
- 4.8 At the 10 minute mark from first unit onscene, Fireboard will ask the Incident Commander if any utility companies are needed and if they want the region cover up policy put into effect. See Attachment #E
 - Response Resource Allocation: At the 10 minute mark, Fireboard will contact the Incident Commander and state "Are you ready for a resource listing (or rundown)?" The Incident Commander may reply with "Standby"; "Not needed", or "Go ahead, ready to copy". When the IC is ready, Fireboard will then provide the listing of On Scene Units, followed by Units that are Enroute to the incident.
- 4.9 Accountability The definition per our current operating policy is that Level 1 is that the tags remain with the unit as collected by the Officer of the unit. Level 2 is that the tags are brought to the Incident Command Post and an Accountability Board is established.
- 4.10 Cover-Up Unit Designations Units providing a Cover-Up assignment will utilize the designation of their unit number followed by the Station Number they are covering. For Example – Engine 325-9; which will be read "Engine Thirty-two Five DASH Nine".

Attachments:

- A Command Checklist (courtesy of Loflin)
- B Building Layout Designations
- C Sample Progress Report (courtesy of Claymont FC)
- D Definitions
- E Regional Cover Up Policy
- F Pre Arrival Assignments for Structural Fires

ATTACHMENT A: INCIDENT COMMANDER'S CHECKLIST

INITIAL SIZE-UP (ANNOUNCE STRATEGY)

- Nothing showing/investigating.
- Offensive: fire location and attack mode.
 - -Support sprinkler/standpipe system.
 - -Pre incident plan.
 - -Size-up: brief description of situation; declaration of strategy; visual safety concerns; additional resources needed.
 - -Announce command by street, building, or landmark on dispatch and tactical channels.
- Marginal: based on risk assessment and life hazard.
- Defensive: personnel accountability report and safety zone.

• FIRST 10 MINUTES

- -Description of structure (height, width, floors, construction).
- -Mode and what is in operation (hoselines, ventilation, search and rescue).

INITIAL RISK ASSESSMENT

- Risk a lot.
- Risk a little.
- Risk nothing.

COMMAND STRUCTURE

- Strategic level: overall direction of the incident.
- Tactical level: assign operational objectives.
- Task level: specific assignments for companies.

INCIDENT ACTION PLAN (IAP)

- Offensive:
 - -initial rapid intervention crew.
 - -rapid intervention crew.
- Water Supply: always.
- A line/lines above the fire: always.
- Check the attic: always (horizontal or vertical extension).
- Ventilation.
- RIC: at least four to six with an officer, multiple RICS form rescue group.
- Primary search, secondary search, fire control.
- Communications.

INCIDENT ACTION PLAN (IAP) (cont.)

- Benchmarks: continuous risk assessment and personnel accountability report at least every 10 minutes.
- Consider defensive after 20 minutes, if no progress.

STANDARD GEOGRAPHIC AND FUNCTIONAL DESIGNATIONS

- Sides: A (facing command), B, C, D.
- Exposures: properties that are threatened.
- Divisions: operations in a defined geographical area, such as roof, interior (e.g., Roof Division, Interior Division, Division B, Division 6).
- Groups: organizational level responsible for functional assignments, (e.g., ventilation, search and rescue, extrication, medical).

SAFETY

- Protective clothing and equipment.
- Personnel accountability report.
- Continuous risk management.
- Rapid intervention crews.
- Safety zones.
- Rehab.

ELAPSED TIME (MINUTES)

10-minute increments up to 100 and 20-minute increments thereafter. This is a reminder to provide a report every 10 minutes to dispatch and to remember the personnel accountability report. (IE - 10 minute timer)

10 20 30 40 50 60 70 80 90 100 120 140 160 ...

Reference: MURREY E. LOFLIN has been a member of the fire service since 1979, having served with the Beckley (WV) Fire Department and the Virginia Beach (VA) Fire Department, where he served from 1983 to 2006 as a firefighter/EMT, a health and safety officer, a captain, a company officer, and a battalion chief. Loflin is the director of fire training for West Virginia and the director of the State Fire Academy in Weston, West Virginia.

ATTACHMENT B: BUILDING LAYOUT DESIGNATIONS

IDENTIFICATION OF DETACHED EXPOSURES

EXPOSURE CHARLIE

SIDE CHARLIE

FIRE BUILDING

EXPOSURE DELTA

SIDE ALPHA ADDRESS SIDE OF BUILDING

IDENTIFICATION OF ATTACHED EXPOSURES

EXPOSURE ALPHA

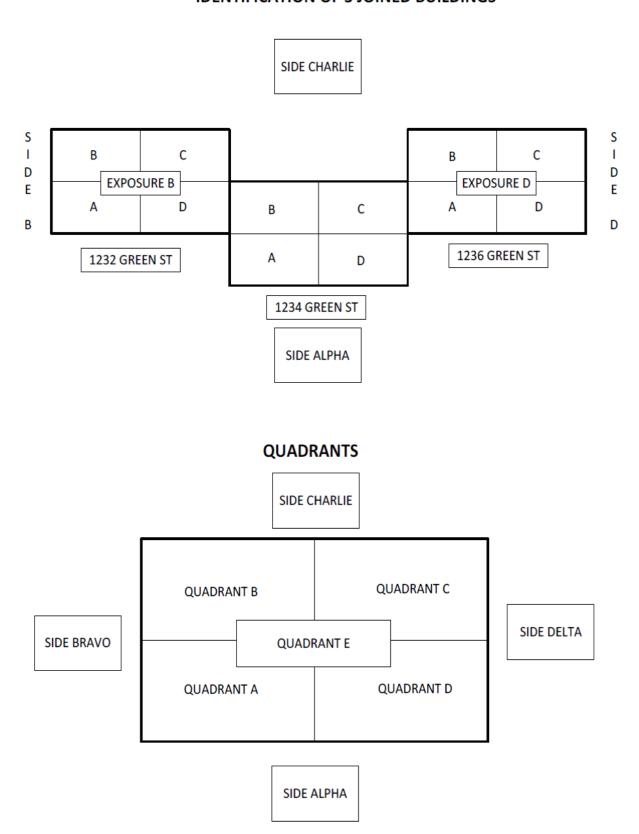
BRAVO 3	BRAVO 2	BRAVO 1	FIRE BUILDING	DELTA 1	DELTA 2	DELTA 3
						FXPOSLIRE

EXPOSURE BRAVO

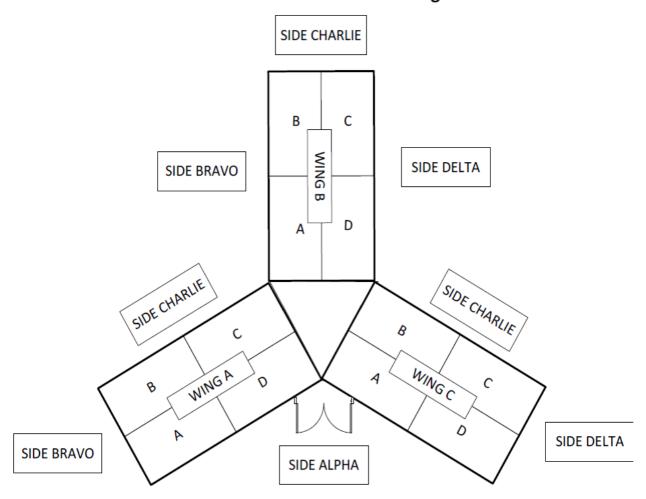
SIDE ALPHA ADDRESS SIDE OF BUILDING

EXPOSURE DELTA

IDENTIFICATION OF 3 JOINED BUILDINGS



TRI – SHAPED BUILDINGS Can Use Directional Labeling



LABELING OF FLOORS

ROOF DIVISION

ATTIC DIVISION	
DIVISION 6	
DIVISION 5	
DIVISION 4	
DIVISION 3	
DIVISION 2	
 DIVISION 1	STREET LEVEL
BASEMENT	
SUBDIVISION 1	

ATTACHMENT C: (Courtesy of Claymont Fire)

TWENTY MINUTE PROGRESS REPORT

C	ommand to Fireboard
At	(address)
We are using	(all units, 2 & 1, 1st alarm)
For (fire, smoke, invest	tigation) on the # floor of a
Story,	(building type/occupancy)
Primary search is	(in progress/negative)
We have lines	in service and
	(Horizontal/vertical) ventilation is underway.
The fire situation is	(advancing/doubtful/under control)
Exposure A is	(Street, occupied/vacant, similar)
Exposure B is	(Occupied / Lot / similar)
Exposure C is	(rear yard, parking lot, one-story garage)
Exposure D is	(Side lot, similar, attached structure)
PAR Check is	(underway, complete with results)
We will be holding unit	s for (estimated time).

ATTACHMENT D: DEFINITIONS

<u>Accountability-</u> The current status of all Firefighters and Officers location and tasks while operating on scene of any one incident

ALS - Advanced Life Support Unit

Back-up line- A secondary hose line used to back up primary hose line with equal or greater GPM

<u>Basement/Cellar</u>- A basement or cellar is one or more floors of a building that are either completely or partially below the ground floor.

BLS – Basic Life Support Ambulance

<u>Command -</u> A single qualified Firefighter and/or Officer assuming responsibility of the overall operation at any single incident.

<u>Command Post</u> – Any assigned area or pre-designated unit as location of Command and Support Staff.

<u>Commercial Structure</u> A non-residential structure designated and utilized as a business, storage or office.

<u>Division/Group Supervisor</u> reports to the Operations Section Chief (OPS) (or Incident Commander). The Supervisor is responsible for the implementation of the assigned portion of the Incident Action Plan (IAP), assignment of resources within the Division/Group, and reporting on the progress of control operations and status of resources within the Division/Group location.

<u>Due-</u> The sequence status of a unit arriving on scene of any one incident.

EMS – Emergency Medical Services

<u>Engine-</u> An apparatus unit capable of, and designated for fire suppression and/or water supply, equipped with adequate pump, hose, & SCBA Firefighters

<u>Evacuation</u> – The mandatory physical removal of all occupants and/or manpower from a building or area as determined by command.

<u>Forward Lay</u> – The act of deploying supply line from the hydrant to the 1st due engine.

<u>Head to Head -</u> The act of the 1st due engine stopping short of the fire building when the ladder is expected from the opposite direction, in which case the 1st due engine and ladder will be front bumper to front bumper or "head to head".

High Rise- Any structure taller than the fire departments tallest ladder.

<u>Laying a Line</u> The act of deploying a supply line from an engine to or from a hydrant.

Multi Family Dwelling (MFD) - A residential dwelling designed for multiple families under one roof

ATTACHMENT D: DEFINITIONS (cont.)

<u>Obvious Rescues –</u> Any visible person in immediate danger of injury or death.

On-Deck Staging- is the forward positioning of the crew of a unit, located just outside the immediate hazard zone and safely distanced from the entrance of a tactical position. On-deck crews are "ready for duty and next in turn", and their readiness and immediate availability is critical to being able to provide quick relief and facilitating effective air management strategy for interior crews. The most likely assignments given to on-deck companies are to provide immediate relief for crews operating in the hazard zone, to reinforce crews operating within the hazard zone, to reinforce a deployment of the designated Rapid Intervention Crew, or for a new assignment within the hazard zone. On-Deck crews will be supervised either by a division or group supervisor (if assigned) or their company officer. Once assigned, crews shall remain on-deck until given another assignment by their supervisor or IC.

<u>Own hydrant-</u> Term used to identify that an arriving Engine is no more than 50 feet from hydrant and will direct connect to hydrant.

Primary Line – An initial hose line of adequate GPM deployed for direct fire suppression.

<u>Primary Search</u> – A mandatory initial search for all possible non visible victims that can be removed before life threatening conditions may occur. It takes place quickly.

<u>RIT (Rapid Intervention Team)</u> – A crew with equipment dedicated solely to search and rescue of other firefighters in distress.

<u>Regional Cover Up -</u> Policy to take a regional approach to providing cover assignments, moving an Engine, Ladder, and Rescue-Engine to an area with multiple units committed at an incident.

<u>Rehab –</u> The act and/or designated area for Firefighter re-hydration and/or medical evaluation.

Reverse Lay – The act of deploying supply line from the 1st due engine or fire scene back to hydrant.

<u>Special Service-</u> A Rescue, CFC Squad or Ladder designated to support the Engines and perform Ventilation, Force entry and searching laddering and other support activities. This unit is equipped with adequate tools, ladders, and SCBA Firefighters

<u>Safety Officer-</u> Any single qualified Firefighter and /or Officer pre-designated or assigned by Command to oversee and enforce overall safety of Firefighters, Officers, and Civilians on or near any one incident.

<u>Secondary Line</u> - A secondary hose line used as an additional line for fire load and/or extension control with equal or greater GPM of the primary line to either work with primary line or directed to another location

<u>Secondary Search</u> – A mandatory follow up search that is deliberate and slow to make sure all victims have been found. This is done when the fire is controlled.

ATTACHMENT D: DEFINITIONS (cont.)

<u>Secondary Water Supply</u> – A determined auxiliary hydrant or water source other than the initial establish supply.

Single Family Dwelling (SFD) – A residential dwelling designed for one family under one roof.

<u>Size Up-</u> An initial evaluation and report of pre-existing and developing factors which may affect initial and continued tactics and safety.

<u>Split Foyer (SFD)</u> - The split foyer-style house, a stalwart of 1970s design, typically features a front entryway that is between floors and faces a short staircase leading up to a main living level and another going down to a finished lower level that has plenty of natural light.

<u>Split Lay –</u> The act of the 1st due engine laying in at a specified location absent of a hydrant with the 2nd due engine completing the lay from the specified point to the hydrant.

<u>Split Level (SFD) - Single family dwelling that are split level, for example, those that have a garage and living space at ground level, this level will be referred to as Division 1; and bedrooms on 2nd story will be Division 2; and dining/kitchen and living areas on the Split Level, or between the two floors, will be referred to as the Split Level Division. See Attachment B.</u>

<u>Staging –</u> The act of units and/or manpower standing by for assignment from Command or as a pool of resources.

<u>Supply Line</u> – A 3" or larger diameter hose utilized to feed water to an operating engine or aerial from a hydrant or other engine.

<u>Support Staff-</u> Any designated Firefighters and /or Officers utilized to assist Command with overall operations tasks at any one incident.

<u>Townhouse-</u> is defined as a house attached to any number of other townhouses (three or more), each of which may have multiple floors, commonly side by side each with their own separate entrances.

<u>Upgrade-</u> Conditions of smoke or fire are reported, that the dispatch will consist of ALS, BLS, RIT and Fire Marshal.

<u>Unit</u> – Any single Fire or EMS vehicle.

<u>Unit Officer-</u> A single qualified Firefighter and/or Officer assuming full crew responsibility of any one unit

*Additional hand lines that are used as primary attack lines will be labeled as such and back up lines etc. i.e. 2nd hand line, 3rd attack line etc.

ATTACHMENT E:

REGIONAL COVER UP POLICY

When a cover up is required for single station department, Fireboard will automatically dispatch one engine to cover the district station; one ladder to cover the next due department and a rescue engine will be dispatched to an area department at the discretion of the Fireboard Supervisor.

When a cover up is required for a multi-stationed department, Fireboard will automatically dispatch an **Engine** to the district main station, a **Ladder** to a secondary district station and a **Rescue Engine** will be dispatched and assigned to a separate department at the discretion of the Fireboard Supervisor.

These units will be available and expected to respond on alarms in all surrounding districts as well as the home district as appropriate for the response, thus eliminating each station who responded to the alarm to have a cover assignment.

A station will not be provided a cover assignment when no units have responded from that station.

Fireboard will advise any unit requesting a cover assignment for their station that the "Cover Assignment Policy" has been implemented.

ATTACHMENT F:

APPARATUS PRE-ARRIVAL ASSIGNMENTS FOR STRUCTURAL FIRES

1st Due Engine:

Establish Water Supply

Forward Lay

Split Lay - Provide layout instructions for the 2nd Due Engine

Split lay for tanker operations

If 1st Due Engine does not establish a water supply, they should provide direction/assignment to the 2nd Due Engine.

Provide Proper Size-Up

Address if different from dispatched address

Number of floors/stories

Type of Structure

Type I-V, Woodframe, Middle of Row, High Rise

Conditions evident on arrival

Initial Actions

Mode of operations (Offensive, Defensive, Investigating)

Establish or Pass Command

If Command is Passed, Designate who will establish Command

Ensure a 360 Size Up is Completed

Either by completing the 360 or assigning 360 via radio transmission

Deploy proper size handline for Fire containment/extinguishment

2nd Due Engine:

Responded to 1st Due Engine's Layout Location

Ensure water supply for 1st Due Engine

Pump supply line, Pick up split lay, Water shuttle/tanker operations

Crew will ensure that 1st handline is in place and operating

Crew will deploy 2nd handline from the 1st Due Engine to the proper location to assist in fire containment/extinguishment

If Command not established or designated the 2nd Due Engine officer will ensure that Command is established

3rd Due Engine:

Establish Secondary Water Supply

If Charlie side is accessible, Deploy supply line to the Charlie side

Forward Lay

Split Lay - Provide layout instructions for the 2nd Due Engine

Split lay for tanker operations

Report to Command - Responsible establishing the initial RIT, until relieved or reassigned by Command

4th Due Engine:

Responded to 3rd Due Engine's Layout Location

Ensure water supply for 3rd Due Engine

Pump supply line, Pick up split lay, Water shuttle/tanker operations

Unless assigned by Command via radio, Report to Command Post for assignment

1st Due Special Service:

Inside Team

Forcible Entry

Primary Search

Known rescue, immediate fire area out, floor above, top floor

Outside Team

Charlie Side Report

Horizontal and Vertical ventilation as needed

Ladder Charlie and Delta sides of the building

Secure the Utilities

Charlie Side Report:

Number of stories in the rear
Any conditions evident

Does the structure have a basement
Is there a FIRE in the basement

Any additional pertinent conditions

Victims

Fire extending to exposures

2nd Due Special Service:

Inside Team - Work with 1st Due Special Service

Forcible Entry

Primary Search

Known rescue, immediate fire area out, floor above, top floor

2nd Due Special Service (Cont.):

Outside Team - Work with 1st Due Special Service

Ensure Charlie Side Report has been completed

Horizontal and Vertical ventilation as needed

Ladder Alpha and Bravo sides of the building

Secure the Utilities

3rd Due Special Service (RIT):

Stage or position apparatus as appropriate

Rapid Intervention Team

Stage Apparatus out of the way

Active RIT

Transfill Kit, Access to AED Immediately

Ground Ladders

Ventilation/Window Removal (Coordinated Ventilation)

Appendix B-Statewide Mayday Policy



STATEWIDE MAYDAY POLICE	CY	Delaware State Fire Chiefs A	ssociation	#2017-001(4)
Original: January 17, 2017	RE\	/ISED:	APPROVED:	

POLICY

MAYDAY – Is the universal emergency callout when a Firefighter or Any 1st Responder (s) is in need of immediate HELP. This will take immediate action by the Incident Commander, Emergency Dispatch Center or the crews operating on such incidents.

PURPOSE

To establish a current and consistent procedure / policy to ensure immediate action from a Firefighter or 1st Responder(s) who calls for MAYDAY assistance and the Incident Commander. This will also allow all jurisdictions who have Emergency Dispatch capabilities within The State of Delaware to operate under one procedure / policy.

<u>"MAYDAY"</u> is a universal distress call, usually repeated 3 times in a row (**MAYDAY**, **MAYDAY**, **MAYDAY**) so that there is no doubt as to the severity of the situation. In emergency and stressful situations, other terms may be used by the Fire Service that may mean the same as **MAYDAY**.

Examples of terms or phrases that may be used the same as MAYDAY are listed below. This list is not all inclusive:

- "We are (or) I am trapped"
- "I can't get out"
- "We are (or) I am lost"
- "We are (or) I am running out of air"
- "We need (or) I need Help"
- "Firefighter Down"
- "Emergency"
- "10-100"
- "10-40"
- "HELP"

If the Emergency Dispatch Center hears a MAYDAY, hears any of the above listed phrases, or hears a very similar plea for assistance, the Emergency Dispatch Center shall immediately implement the MAYDAY Policy.

If the Dispatcher(s) unclear as to the intent of an anxious radio transmission, or if the Dispatcher(s) thinks that a Firefighter or any other 1st Responder(s) is in distress, the Dispatcher(s) will have all units on the Fire Ground Channel cease transmitting and stand by. The Dispatcher(s) will ask the Firefighter(s): "Are you declaring an Emergency?" If the answer is to the affirmative, the MAYDAY Policy will be immediately implemented.

CONDITIONS THAT WARRANT

- A crew member has fallen through the roof or floor.
- A crew member has been caught in a catastrophic event, such as a flashover, explosion, backdraft or collapse.
- A crew member has become entangled, trapped, pinned, stuck or separated from their crew in an IDLH atmosphere.
- A crew member who may be disoriented, missing, lost, or off a hose or tag line in a large / open area with limited visibility.
- A crew member's primary exit is blocked by fire or structural collapse and an alternate exit is not immediately available.
- A crew member's low air alert activates and an immediate exit is not available; or
- Any other situation when the life safety of a crew member may be at immediate risk.

OTHER EMERGENCY TRAFFIC or PRIORITY/ URGENT MESSAGES

A Priority message is transmitted if:

- a crew member suffers an injury that requires medical attention but is not life-threatening,
- the firefighting strategy will switch from interior to exterior attack,
- a structural condition is discovered that could endanger working firefighters,
- fire is entering an exposure,
- a loss of water occurs that will endanger members, or
- Command needs to gain control of the radio channel.

A Mayday transmission is used only in situations that are life threatening to responders. The Priority message is used for other types of fire ground emergencies.

PERSONNEL THAT MIGHT CALL FOR MAYDAYS

- Interior Firefighters
- Exterior Firefighters
- Command and Division Officers
- Pump and Aerial Operators
- Emergency Medical Personnel
- Fire Police Units

IMPLEMENTATION

The Emergency Dispatch Center will notify all working companies on the Incident with the following procedure after prompting the Incident Commander. The Incident Commander and Emergency Dispatch Center will work in unison to complete task.

A MAYDAY IS DECLARED: Warble Tone (Motorola Alert 2) (5 seconds) Dispatch Center will announce "All units, A MAYDAY has been declared, radio restrictions unless there is an emergency. Incident commander did you copy for MAYDAY?" Note: This will be done on the dispatch channel and the appropriate fire ground channel(s) involved in the incident.

The ability to proceed with the MAYDAY Checklist is to be performed at the Incident Commander Level (or) in dire situations to be completed by the Emergency Dispatch Center. The Incident Commanders Checklist is located as (Annex Attachment 1). The Emergency Dispatch Center Check list is located as (Annex Attachment 2). The following approved acronyms are universally accepted:

WWW – Will be transmitted by the person requesting help.

- W- Who is transmitting MAYDAY?
- W- Where are you located?
- W- What do you need / What is the Problem?

EXAMPLE: MAYDAY, MAYDAY, MAYDAY, Engine 1 Officer, Division 2 rear bedroom, Low on air and lost.....

The Emergency Communication Center will acknowledge, notify Incident Command, and Transmit Emergency Broadcast.

EXAMPLE: SUSSEX to Command 87, we are receiving an MAYDAY from ENGINE 87-2 Firefighter Jones, Basement, fell through floor, Do you Copy?

LUNAR- Will be coordinated by Incident Commander,

- L- Location of MAYDAY
- **U- Unit number or Radio Sign ID**
- N- Name (ex. FF Dave Smith)
- A- Air Supply Remaining
- R- Resources Required (Tools / Supplies need to extricate)

DISPATCHER NOTE*** If Dispatcher(s) does not get acknowledgement from an Incident Commander, The Dispatcher(s) will continue with Emergency Procedures (LUNAR) until appropriate command actions are taken or the MAYDAY is cleared.

EXAMPLE: Kent Center to Command 42, we are receiving a MAYDAY from Firefighter Carter off Engine 42-2, Lost on Division 2, Do you Copy?

EMERGENCY ALERT BUTTON ACTIVATIONS

An emergency alert received from an 800 MHz portable radio at an emergency scene will be treated as a potential MAYDAY call. The Emergency Dispatch Center will attempt to confirm an "under control" from the unit. If an "under control" cannot be verified after two (2) attempts, the Incident Commander will be contacted. The Incident Commander will be told of the inability to qualify an "under control", and asked if he / she wants the MAYDAY policy implemented

ADDITIONAL RESOURCES

The need to dispatch additional resources will be handled by the dispatch center at the time a MAYDAY is transmitted. This will follow your jurisdictions procedures.

Each County/ Jurisdiction will follow their upgrade response assignment policy. Prompt to the Incident Commander will be made.

When upgrade response assignment is dispatched, the units will be directed to another fire ground channel and will be directed to a determined staging area. The Incident Commander will be notified upon arrival.

ACCOUNTABILITY

An accountability check will be required for all Fire Ground operating units. When the need to account for our personnel is needed to ensure number of lost, trapped, or injured firefighters, **Level III**Accountability should be placed into effect. We will need to account for the NAME (s) of the MAYDAY person(s) prior to giving an ALL CLEAR on MAYDAY incident.

- Level 1 Accountability Tag to ring on apparatus
- **Level 2** Accountability Tag to Command Post or designated area.

Level 3- 2nd Accountability Tag to gain entry into restricted areas, divisions, or hazard areas. Collected by that officer assigned to that task.

EMERGENCY COMMUNICATION CENTERS

The Emergency Communication Center is the vital link to control that immediate action needed to successfully receive, transmit, and make decisions to effectively mitigate the MAYDAY. The ever presence responsibility of maintaining communication skills is the overall primary task for success.

INCIDENT COMMANDERS

The Incident Commanders must be able to effectively communicate with the Person(s) transmitting the MAYDAY, the Emergency Communication Center, and the Rescue Teams to ensure effective procedure goals are being accomplished. The Incident Commander must be able to continue Firefighting operations and Firefighter rescue at continuous rate until one of the task are cleared or under control.

RAPID INTERVENTION TEAMS/ CREWS

Rapid Intervention Teams / Crews also known as RIT , FAST , or RIC; are designed to provide immediate rescue to a Firefighter or Crew declaring a MAYDAY transmission under control of the Incident Commander standing by a strategic position on the Fire Ground. There may be a time where this is not possible, due to response, staffing, or not dispatched. The Incident Commander and Emergency Communication Centers must maintains this frame of mind. (Reference OSHA 2 in 2 out)

EMERGENCY MEDICAL SERVICES

Advanced Life Support and Basic Life Support Personnel must be in place and prepared to act immediately and effectively. The need for multiple units must be acted upon accordingly. All EMS provider must be in proper personal protection and with heat protective hand wear. Latex medical gloves will melt and cause burns to the provider once the MAYDAY person(s) are removed from the incident.

CRITICAL INCIDENT STRESS DEBRIEFING

CISD is an important factor for the Incident Commander to consider. The need to have the CISD Teams County Coordinators contacted as soon as possible will increase the effectiveness of the after action effects on the Firefighters. The Communication Center can assist by prompting the Incident Commanders to proceed with this request.

SYNOPSIS

The situation inside a fire building and on an emergency scene can change rapidly, putting firefighting forces in peril with little or no warning. SCBA will muffle radio transmissions. Anxiety levels and firefighter respirations will increase as interior conditions deteriorate. The background sounds of hose streams, irons, PASS Devices and the like will make it difficult to understand stressed radio transmissions. Dispatcher(s) need to remain ever vigilant to fire ground radio traffic. Calls for help may be limited to one or two words. The Incident Commander and the Dispatcher(s) attention to detail, even when the fire initially seemed "routine", may save a life.

EMERGENCY COMMUNICATION CENTER Check List

Primary Channel Dispatcher

Confirm and Answer the MAYDAY

<u>Simul-select the dispatch Channel and the appropriate fire ground channel(s) involved in the incident.</u>
Activate CALL TONE, then ACTIVATE ALERT TONE for 5 seconds and repeat the following:

A MAYDAY IS DECLARED: Warble Tone (Motorola Alert 2) (5 seconds) Dispatch Center will announce "All units, A MAYDAY has been declared, radio restrictions unless there is an emergency. Incident commander did you copy for MAYDAY?" Note: This will be done on the dispatch channel and the appropriate fire ground channel(s) involved in the incident.

Confirm that COMMAND copied MAYDAY

If NO Command Acknowledgment, Dispatcher must complete until command receives message or MAYDAY is cleared.

Attempt to contact Unit(s) or Person(s) declaring MAYDAY and complete <u>L-U-N-A-R</u>

L – LOCATION:
U- UNIT NUMBER (or) CALL SIGN:
N- NAME:
A- AIR SUPPLY STATUS:
R- RESOURCES NEEDED:

^{*}Contact Incident Command and CONFIRM that he/she copied LUNAR Information.

^{*}Contact Incident Command and determine if units not involved in MAYDAY should be moved to alternate Fire Ground Operating Channel?

EMERGENCY COMMUNICATION CENTER Check List

Secondary Dispatcher

MAYDAY has been declared Dispatch Level of Response required FIRE GROUND EMERGENCY UPGRADE / ADDITIONAL ALARM AS PER PROCEDURE PROMPT IC for TECH RESCUE RESPONSE Re Alert HOME COMPANY DURING DISPATCH UPGRADE / ADDITIONAL UNITS to ALTERNATE FIRE GROUND CHANNEL, ASSIGN STAGING AREA LOCATION. NOTIFY IC OF ARRIVAL / LOCATION WATER RESCUE UPGRADE / ADDITIONAL ALARM AS PER PROCEDURE NOTIFY COAST GUARD / DNREC ALERT DIVE / SURFACE WATER RESCUE TEAMS Re Alert HOME COMPANY DURING DISPATCH UPGRADE / ADDITIONAL UNITS to ALTERNATE FIRE GROUND CHANNEL, ASSIGN STAGING AREA LOCATION. NOTIFY IC OF ARRIVAL / LOCATION

TECHNICAL	RESCUE
UPGI	RADE / ADDITIONAL ALARM AS PER PROCEDURE (ADDITIONAL TECH RESCUE TEAMS)
Re A	Alert HOME COMPANY DURING DISPATCH
	RADE / ADDITIONAL UNITS to ALTERNATE FIRE GROUND CHANNEL, ASSIGN STAGING AREA ATION . NOTIFY IC OF ARRIVAL / LOCATION
EMERGENC	Y MEDICAL
■ NOT	TIFY POLICE FOR "HELP EMS"
ADD	DITIONAL ALS / BLS
ALE	RT HOME COMPANY FOR ENGINE /MANPOWER
PRC	OMPT FOR AVIATION
NOT SENI	EMERGENCY TIFY POLICE FOR "FIRE POLICE EMERGENCY" D ADDDITIONAL RESOURCES (EMS, FIRE, etc.) RT HOME COMPANY CHIEF OFFICERS (possibility of no fire units on scene)
	h Incident Commander/ Chief Officer Notification policy has been initiated for both ompany and unit(s) involved company
	e ground Dispatcher on alternate channel if the Incident Commander switches alternate channel

Appendix C-House Floor Plan/Site Map

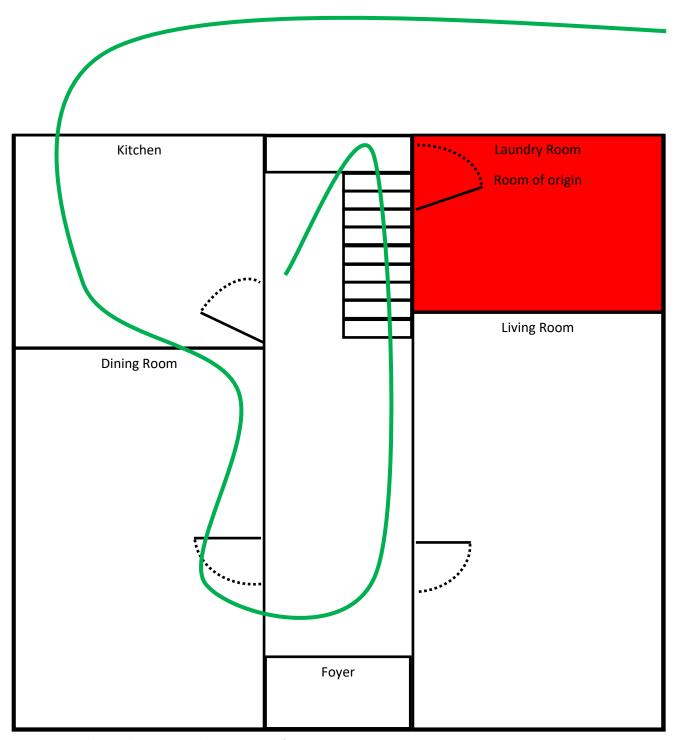


Figure 17-First Floor with Green Line Indicating Route of Hose Team



Second Floor

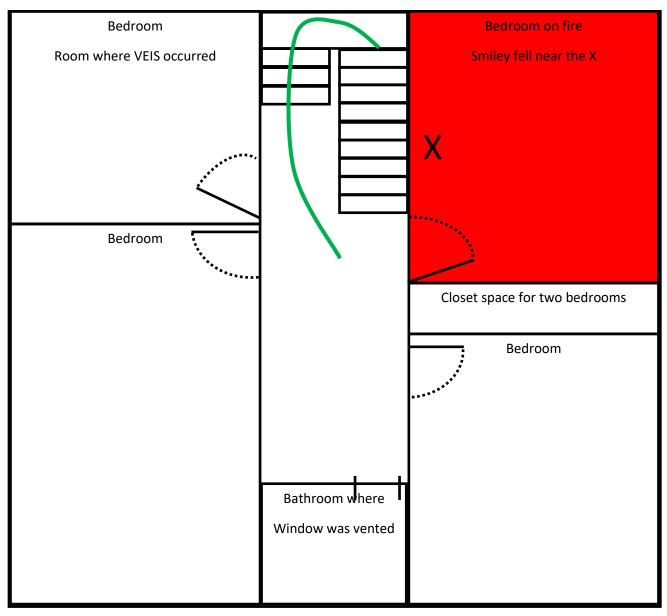


Figure 18-Second Floor with Green Line Indicating Hose Location





Figure 19-Hydrant Location (Dempsey)



Figure 20-Overhead of House (Dempsey)



Figure 21-Apparatus Placement, After Pulling Rescue 14 Forward (Dempsey)

Appendix D-Post Fire Pictures



Figure 22-Side Alpha (Wilson)



Figure 23-Side Bravo (Wilson)



Figure 24-Side Charlie (Wilson)



Figure 25-Side Delta (Wilson)



Figure 26-Second Floor Facing Toward Charlie Side (Wilson)

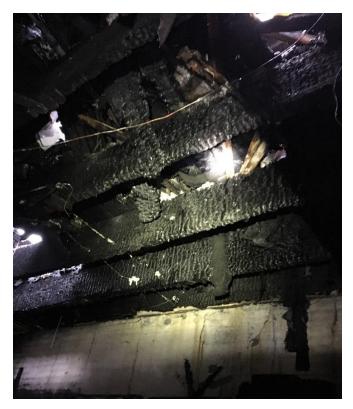


Figure 27-Void Between Laundry Room & Bedroom (Dempsey)



Figure 28-Approximate Location of Where Smiley Fell Through the Floor (Dempsey)

Appendix E-Equipment from Injured Firefighter



Figure 29-SCBA Unit



Figure 30-Turnout Coat



Figure 31-Inside Liner of Coat



Figure 32-Cuff of Coat



Figure 33-Outside of Helmet



Figure 34-Interior of Helmet, Ear Flaps and Liner Had Burned Away



Figure 35-Radio and Strap

Appendix F-Radio Transcripts

Key

No color-Tac3

Red-Dispatch

Yellow-Tac4

EMSOPS1-Blue

Mark t	ime	Time	Unit Message
0	8:39	FB	2-21, Engine 14, Engine 19, Engine 30, Ladder 16, Rescue 23
1:36	8:39	B-2	Responding
1:55	8:40	L-16	Responding with 6
2:11		R-23	Responding with 6 (actually 7)
2:20		A-19	Responding
2:32		21-6	Responding with 4/Mill Creek Road across from Riblett Lane/roof on fire
2:35 fire	8:41	FB	21-6 8:41 reported on Mill Creek Road across from Riblett Lane reported roof on
2:55	8:41	Sq23	Responding with 3
3:11	8:41	T-19	Responding with 3
3:30	8:41	C-21	Responding driver only
3:55	8:41	21-7	21-7
3:58		FB	21-7 your staffing?
4:09		21-7	Just 1
4:25 the ar	ea of Rib	FB lett Lane	All units responding the residential structure fire again it's on Mill Creek Road in e, reported flames in the rear of the residence
4:53 in a se	8:43 cond	B-2	B-2 arrived the area, we definitely have smoke showing, I'll get you an address
	8:43	FB	B-2 is in the area smoke showing, 8:43
	8:43	ALS25	ALS 25 to Fireboard, I'm going to start toward the fire
5:14		Sqd9	Responding with 3 on Mill Creek box (not dispatched)
5:20		R14	Responding with 5
	8:44	ALS24	Responding to the fire

6:00 8:44 B-2 Got a 3 story single family dwelling, fire in the rear of the residence, correct address is 3200 Mill Creek Road, unsure about occupancies

FB 3 story single family dwelling fire in the rear unknown occupancy

6:40 19-8 Responding

6:50 21-6 21-6 to Fireboard, we are on location, conditions as reported, looks like there is actually going to be a hydrant that can be taken in front of the church before you get here, I'm going to be establishing Mill Creek Command and the first engine

7:09 FB Received 21-6 is command with the first due engine assignment, 8:44

8:45 ALS25 Returning since ALS 24 is going to the fire

7:20 Command Did you copy that there is a hydrant that we're going to need taken?

FB next due engine into the box take the engine in front of...correction take the hydrant in front of the church

7:40 Command Fireboard, any report on people inside

7:50 FB B-2 last reported unknown occupancy

8:00 Command Alright, you can put B-2 in fire bypass

8:09 FB B-2 is on scene

8:20 FB Fireboard to Mill Creek Command just be advised you are short a ladder, staffed Ladder 17 for the replacement

Command Alright that's fine

8:35 8:46 L-16 Ladder 16 arriving first due special

8:46 Command Elsmere keep pulling past so we can get an engine up here, Ladder 16 keep pulling past. I'm going to need fire police Fireboard

9:10 14-9c 14-9c is enroute, I'm goint to Mill Creek and Stoney Batter

9:30 Command I've got fire from the second floor bedroom on the C/D corner, first line is advancing, I got smoke (unintelligable), Ladder 16 you're going to be the search

Fire from the second floor....bedroom charlie/delta corner

10:05 T-19 Tanker 19 arrival, we're taking the hydrant assignment in front of the church

	8:46	FB	Medic 3, stand by the fire scene 3200 Mill Creek Road
10:05	8:47	L-17	Ladder 17 responding with 4
10:29		16-8	16-8's arrival, 21 box
10:43	8:47	R23	Arrival R23, going to be second special

11:05		Ladder	17	Fireboard, did you get Ladder 17 with 4?
11:17		FB	That's a	affirmative
11:43 corner,	, Rescue	Comma 23 grab		"Rescue 23 your going to be C/D corner ladders, ladders to the C/D dders"
11:54	8:47	Sq23	Arrival	Squad 23, we're going to have Tanker 19's hydrant
12:10		L-16 O\	/Ladder	16 OV to command
12:13		Comma	and	Go ahead for command
12:15 side		L-16 O\	/2 1/2 st	cories in the rear with smoke showing, I'm going to VES on the Charlie
12:29		Comma	and	Repeat that
12:39		Comma	and	Tanker 19 I need your supply line up here
	8:48	FB	B14 Sta	nd by the fire scene 3200 Mill Creek Road
12:55		Ladder	16 Brave	Ladder 16 Bravo, need more pressure on this line
13:05 second	I	Comma	and	Hose line crew back out for a second, hose line crew back out for a
13:20	8:49	Rescue	14	Arriving taking third due special
13:55 supply	from Tai	Comma nker 19 t		Rescue 14 your assignments been changed, help establish a water
14:06			More p	ressure on the line for 21-6
14:15 by		21-6 dr	iver	21-6 we're out of water and we're trying to establish a supply line, stand
14:30		Comma	and	21-6 back the hose line out right now
14:40	8:49	Squirt 3	30	Responding with 3
15:10			Brief m	ic opening with what sounds like "mayday"
15:16			Mayda	y, mayday, mayday
15:33		FB	Fireboa	ard to Mill Creek Command
16:24		16-8	16-8 to	command
16:30			Open n	nic with screaming
16:35			Open m	nic with screaming
16:48			Open n	nic with screaming

17:02	Comm	and	Go ahead 16-8
17:04	16-8	Did yo	u copy that mayday?
17:07	Comm	and	Mayday second floor
17:15		Mayda	y, mayday, maydaysecond floor, fireman through the floor
17:33	FB	Tones	activated
	FB	Troope	er 4 respond to 3200 Mill Creek Road, we have an active fire with a
mayday			
17:40	FB	Tones	activated
17:55	19-8C	19-8C	to BLS crew
18:03	FB	Tones	activated
18:05		Hey Jo	hn, where are you?
18:15	Comm	and	Front yard
18:17 emergency, in	FB cident co		ts, a mayday has been declared radio restrictions unless it is an ler did you copy the mayday?
18:38	16-8	16-8 to	Mill Creek Command
18:47 are making acc		e 14 Offi and flooi	,
18:58	Comm	and	Ladder 16, 16-8, go ahead
19:05	16-8	Alright	r, firefighter through the second floor, mayday has been cleared, he is out
19:16 Fireboard at th	Comm nis point,		Copy on the mayday cleared, he's out, I want an orderly evacuation evacuation of the structure
19:26	FB	Ok so	you copy the mayday firefigthter is outorderly evacuation
8:52	Tower	12	Tower and Engine 12 at McKennas Church and Limestone
	<mark>Ladder</mark>	18	Ladder 18 on radio with a crew of 5/A-18 in bypass
19:42		Comm	and, (inaudible)
20:15 defensive mod evacuate from		en oper	activated-All units operating 3200 Mill Creek Road, a withdraw to rated, ordered by command, all firefighters have been ordered to orderly
20:57 8:53	21-8	21-8 is	responding
on the radio	FB	Medic	9 is dispatched as a second unit per request from an unidentified person

21:06 FB Tones activated-All units operating 3200 Mill Creek Road, a withdraw to defensive mode has been operated, ordered by command, all firefighters have been ordered to orderly evacuate from the structure 21:08 Command (Overlap under tones) Fireboard I'm going to have accountability at the back of 21-7, I do have one patient being taken to an ambulance right now, one firefighter Advised that they have the patient across the stree from the residence, and C21 wanted to know where the ALS was coming from 21:20 FB Received-All units operating..... 21:21 (Overlap under FB announcement) Information about patient 21:55 Command Fireboard, can you repeat the orderly evacuation, we have a lot of people inside 22:21 Command Tanker 19 we're going to need some water On dispatch Engine 28, Engine 23, Engine & Rescue 8, Engine & Ladder 12, WFD Engine 1, WFD Engine 6, WFD Battalion 2, Engine 17, Rescue 22, Ladder 18 for the second alarm WEng6 Wilmington Engine 6 is responding with 4, ok on the staging location 22:36 Tanker 19 let me know when you're ready for water FΒ Fireboard to Mill Creek Command 22:46 23:01 FB Fireboard to Mill Creek Command 23:05 Command Fireboard give me a second alarm and standby somewhere like DelCastle golf course and go ahead with your message 23:15 FB They've already been dispatched, just confirming you've been in contact with Ladder 16 Alpha, they are the original mayday and they keep keying up 23:36 Command Yes Ladder 16 is out 23:37 FB Received thank you, second alarm has been started 23:46 8:55 Ladder 17 Arrival 23:58 Command Tanker 19, we're going to need water to 21-6 8:56 Ladder 28 Ladder 28 responding with 5 24:38 Command Mill Creek Command to Tanker 19 Driver 24:45 Squad 23 Officer Squad 23 Officer to Trooper 4 8:57 Sqrt 30 Arriving Tower 12 stand by your unit right now, Mill Creek Command to Tanker 25:05 Command

19 Driver

	8:57	Ladder 25	Enroute w	ith 6
25:55	8:57	Battalion 11	Battalion :	11 responding
26:17		Command	Charge the	e line Tanker 19
26:45	8:57	Chief 9 9-8 is	on the fire g	round
27:08:0 assignr		Engine affing of 3	e 9 Re	esponding in place of Rescue 8 for the second alarm
27:23		FB Engine	9 go to TAC	2.4
	8:58	Squad 17	Squad 17	responding with 3
27:41:0 ready	00		Squad 23	Officer, 19-8 will be your contact, he'll advise you when he's
27:50:0	00	Squad	23 Officer	Сору
28:00:0 pressu		Comm	and Co	ommand to Tanker 19 Driver, I'm going to need some water
	ydrant,	Comm fire throughout ne is out of the s	the 2nd and	aving problems with one of the engines, Squad 23 will supply 3rd floors. Once we get our lines charged we'll make an
29:18:0	00	FB	Copy Squa	d 23 taking the hydrant, all firefighters out of the structure
29:40:0	00		Engine 12	Driver where are you?
29:52:0	00	Engine	e 12 Officer	Engine 12 Officer to Command
30:00:	00	Comm	and Er	gine 12 Officer
30:10:0 Engine		J		n you get a crew to hand jack a supply line from 21-6 to Tanker 19 to complete the lay
30:26:0	00	Comm	and Fi	reboard I didn't copy that
30:43:0	00	FB	Command	that was broken up on my end as well
30:48:0 discon		Eng12 the line from Ta		ave a crew hand stretch 4" from 21-6 to Engine 12, I'm omplete the lay
31:00:0 12	00	Comm	and 16	take that assignment, help stretch from Tanker 19 to Engine
31:15:0	00		Inaudible	
31:22:0	00		Charge the	e green line
31:35:0	00	WEng	6 Wilmingto	n Engine 6 to Mill Creek Command
31:37:0	00	Comm	and Go	o ahead

31:48:00 issue for you?	WEng6 We're	arriving, you want us in staging or to handle that water supply
32:00:00	WEng6 Engine	e 6 to Mill Creek Command
32:04:00	Command	Engine 6
32:10:00 supply for 21-6?	WEng6 We're	going arrival, you want us in staging or to handle that water
32:25:00	Command	If you can make your way up here, you can help with that
32:30:00	WEng6 Alright	r, Fireboard we're arrival
32:32:00 9:02	FB Engine	e 12 Officer
32:37:00 one line in service on t	Command he outside Delta	Fireboard at this time we have sort of a water supply, we have side waiting for appropriate pressure
32:53:00	FB Receiv	red
33:06:00	22-3 22-6 w	vith 3, ambulance in bypass
33:10:00 accountability	Command	Also, I don't think I mentioned this but he's aware, 12-8A has
33:33:00	Eng12 Officer	Engine 12 Officer to Mill Creek Command
33:43:00	Command	Mill Creek Command
33:46:00 water supply issue is so	Eng12 Officer olved	I need 21-6's driver to connect that 4" to his intake and then the
34:02:00	Command	He copies
34:11:00	Eng12 Officer	21-6 operator, let me know when you want that charged
34:33:00	FS10 Firebo	ard, FS 10 is out at Mill Creek Road
35:03:00 9:04	Squad 9Squad	9's arrival
9:04 C-21	Transporting o	ne patient to CER with all of Medic 3
35:22:00 evacuate the structure	Command , at this time you	Fireboard, can you repeat the fact that I've said several times to u can make it an emergency evacuation because no one's listening
35:50:00 evacuation of the structimmediately		-All units operating 3200 Mill Creek Road, an emergency rdered by command, all firefighters are to evacuate the structure

36:20:00 FB Tones-All units operating 3200 Mill Creek Road, an emergency evacuation of the structure has been ordered by command, all firefighters are to evacuate the structure immediately, all units and division officers are to report PAR to command

36:00:00	Fireboard	Emergency evacuation sounded
36:40:00	Engine	e 12 operator, charge that 4" to 21-6
36:58:00	T19 Officer	Tanker 19 officer to 21-6 driver, you should have water
37:12:00	Engine	e 12 operator, when you're ready charge that 4"
37:19:00 street	E12 Operator	I need a water supply from whoever has the hydrant down the
37:28:00	Squad	23 charge the hydrant
37:36:00	Squad 23	Here comes the water
37:58:00	WFD E6 Wilmir	ngton Engine 6 to Squad 2 3
38:05:00	Squad 23	Squad 2 3
9:07	WFD Engine 1	and Ladder 28 on scene
38:13:00	WFD E6You're	on the hydrant, correct?
38:21:00	Squad 23	That is correct
38:29:00	WFD E6Send t	he water
38:31:00	Squad 23	Should be coming
39:00:00	E12 Operator	Engine 12 to the tower, here comes your water
39:08:00	Tower 12	I have it, thank you
39:19:00 standing by	Engine 17	Engine 17 is at the hydrant at the entrance of Highland West
39:40:00	6	December 14 OV/told was be did a maintain according to the third floor
	Command we get a water s	Rescue 14 OV told me he did a primary search of the third floor, supply to tower 12 we're going to make an exterior defensive

Appendix G-Firefighter Training Levels

# \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	X X SFFS	X	о/а x	CR. LDR	STRAG.	таст.	ST. & CMD	X F0.1	FO 2	X PB FF 1	PBFF 2	PBFO 1	PBFO 2	FIRE I, II, III NFA -
1 X 3 X 9 X	x	X	x							Х				
1 X 3 X 9 X	Х		x	x				Х		X				
3 X 9 X	Х			Х										STRAT.&TAC TIC IN. COMP OFF.
9 X		X						Х		Х	Х	Х	Х	
	X	1	X	X				X	X	X	X			
6 X		X	X	Х										
	X	X	X	x										NFA - STRAT. & TACTIC INITIAL COMP. OFFICER, FGO - SIZE UP ICS 300, 400
9 X	X	X	X	X				X	X	X	X	X		NFA - STRAT. & TACTIC INITIAL COMP. OFFICER, FGO - SIZE UP ICS 300, 400
1 X	Х	Х	Х	Х										
1 X	Х	Х	Х		Х	Х	Х							
9 X	X	X	X											
3 X	X	X	X	Х										
1119	x x x	x x x x x x x x x	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X				X X X X X X X X X X X X X X X X X X X				

FF (S)														
ANDREW	21	Х	X	Х	X	X			Х	X	Х	Х		FGO - SIZE
KLINK														UP, ICS 300
CORY	21	Х	Х	Х	Х	Х					Х			
ECKRICH														
NICHOLAS	14	X	X	X	X	Х					Х			
PEDICONE														
DAVID	23										Х	X	X	
SMILEY														
CHRIS	23	X	X	X	X	Х								
COLPO														
BRENDAN	23	X	X	Х		X			X					FGO - SIZE
MAHONE														UP
Υ														
ADDISON	23	Х	X	Х	X	X			X					FGO - SIZE
HILL														UP
BITTNER														
BRIAN	19	X	X	X	X	X	X	X						NFA - STRAT.
WARRICK														& TACTIC
														INITIAL
														COMP.
														OFFICER
MATT	16										Х			
MANCINI														
VINCENT	16	X	X	Х	X	X								FGO - SIZE
GAMES														UP
JOSHUA	16	X	X	X	X	X								
ROSA														
MATT	23													NJ
MCKAY														Firefighter 1

Appendix H-Statewide Mayday Overview (Jack Wilson, Delaware State Fire School)

State MAYDAY overview

3200 Mill Creek Road

On March 14, 2019 @ 0852 hours a Firefighter MAYDAY was transmitted over New Castle County TAC 4 dispatch channel. The dispatch audio reveals that the unit (Rescue23) response time was 0840 hours and with arrival time of 0847 hours (7 minutes). Upon arrival, Rescue 23 with a crew of 6 Firefighters, pulled passed Tanker 19 which was at hydrant and parked next to Ladder 16 and assumed 2nd due special assignments. Rescue 23 in command of Captain Dave Smiley assigned crews and forced door on Alpha side. The crew of Captain Smiley, Firefighters Hill and McKay entered and made their way to the 2nd floor search of unknown occupants. As the R23 crew approached the 2nd floor they were advised of water issue with 1st due Rescue/Engine 216 attack line. They crew went passed them to continue their task and met up with other Firefighters from Ladder 16 who was the 1st due special service assignment. Captain smiley entered the fire room to search and check for extension in a room at the top of the 2nd floor to left of the stairs with his crew and Ladder 16. Approximately about 4 feet from hallway door in bedroom and floor decking gave way and Captain Smiley started to fall through the floor. At this time, Captain Smiley was being burned at his waist and hand area and his gear had shifted. Captain Smiley went through floor to 1st floor laundry room on the delta side of the structure and was assisted outside to Emergency Medical Services and taken to Christiana Hospital and sent to Crozier Chester Burn Center for treatment.

Times are after arrival of Rescue 23 at 0847 hours and calculated by stop watch due to incomplete times on CAD or Dispatch Audio:

- 4 minutes and 29 seconds after Rescue 23 crew made entry, some unclear broken messages were hard to understand sounds like "May".
- 4 minutes and 35 second mark a clearer but incomplete "Mayday- Mayday" was transmitted.
- 4 minutes and 51 seconds mark New Castle County Fireboard tried to contact command
- 5 minutes and 18 seconds- Broken, Unclear Message
- 5 minutes and 47 seconds 16-8 to Command (no answer back)
- 5 minute 51seconds, 5 minute 57 seconds, 6 minutes 5 seconds, 6 minutes 11 secondsopen Mic transmission with unclear commotion in back ground
- 6 minutes 27 seconds 168 to Command (Copy Mayday, Command answers back)
- 6 minutes 41 Seconds "Mayday Mayday-Mayday" 2nd floor, unclear other message
- 6 minutes 51 seconds Alert Tones x1 transmitted no message

- 7 minutes 0 seconds- Alert tones x2 transmitted no message.
- 7 minutes 25 seconds- Alert Tones x 3 with State Mayday Dispatcher Message Transmitted
- 7 minutes 59 seconds- 168 to Command
- 8 minutes and 19 seconds Command Answered 168
- 8 minutes and 27 seconds 168 cleared Mayday with Firefighter outside structure

Training Points:

- 1) Using the State Mayday Policy gives us consistent policy Statewide for rapid information exchange from the Mayday Firefighter to Command to the Dispatch Center.
- 2) Situation Awareness is key for all involved in a MAYDAY situation
- 3) Using Rapid Intervention teams is a must on all working fires, we know the RIT was arriving when this happened. National Project Mayday Report shows that 26% of the time the Mayday Firefighter is being rescued by their crew or another interior crew.
- 4) Need Delaware Fire Officers in Command to have a stable area to set up Command Post, Clear Action Plan, Account for Crews and locations, get help with management of incident and listen to radio.
- 5) Firefighters involved need to give a good WHO WHAT –WHERE on the radio so we can start the process, we understand the stress involved, but without the basic information being transmitted the process took a few more minutes.
- 6) Command was having issues with several radio interruptions, Radio is our lifeline, Once we realize the Mayday has been transmitted other units or personnel need to have radio silence unless they are having an emergency.
- 7) New Castle County Dispatcher realized there was an issue early, unable to get commands attention, they set off the alert tones twice without message then on the 3 try the policy message was transmitted. Dispatchers have the authority to move forward with alert tones and message as soon as they realize the command officer is not responding.
- 8) Using the tactical worksheet and the state mayday worksheet will help with management of the incident.